THE ARCHITECTURAL REVIEW

A Magazine of Architecture & Decoration

Incorporating
THE
CRAFTSMANSHIP
SUPPLEMENT

Two Shillings and Sixpence Net.

9 Queen Anne's Gate. Westminster. S.W.1.

Vol. LXXIV December 1933 No. 445

THE
ARCHITECTURAL REVIEW
A Magazine of Architecture & Decoration

Vol. LXXIV, No. 445 — *December* 1933

CONTENTS

Plates

Articles, photographs, or drawings sent with a view to publication will be carefully considered, but the Proprietors will not undertake responsibility for loss or damage. All photographs intended for reproduction should, preferably, be printed on albumenized silver paper.

All articles and illustrations should bear the name and address of the sender, and postage should be sent to cover their return.

The Editor disclaims responsibility for statements made or opinions expressed in any article to which the author's name is attached, the responsibility for such statements or opinions resting with the author.

All communications on Editorial matters should be addressed to the Editor, THE ARCHITECTURAL REVIEW, *9 Queen Anne's Gate, Westminster, S.W.1.*

Prepaid Subscription Rates

United Kingdom, £1 5 0 per annum, post free. U.S.A., $8.00 per annum, post free. Elsewhere Abroad, £1 5 0 per annum, post free. Cheques and Postal Orders should be made payable to THE ARCHITECTURAL PRESS, LTD., *and crossed Westminster Bank, Caxton House Branch.*

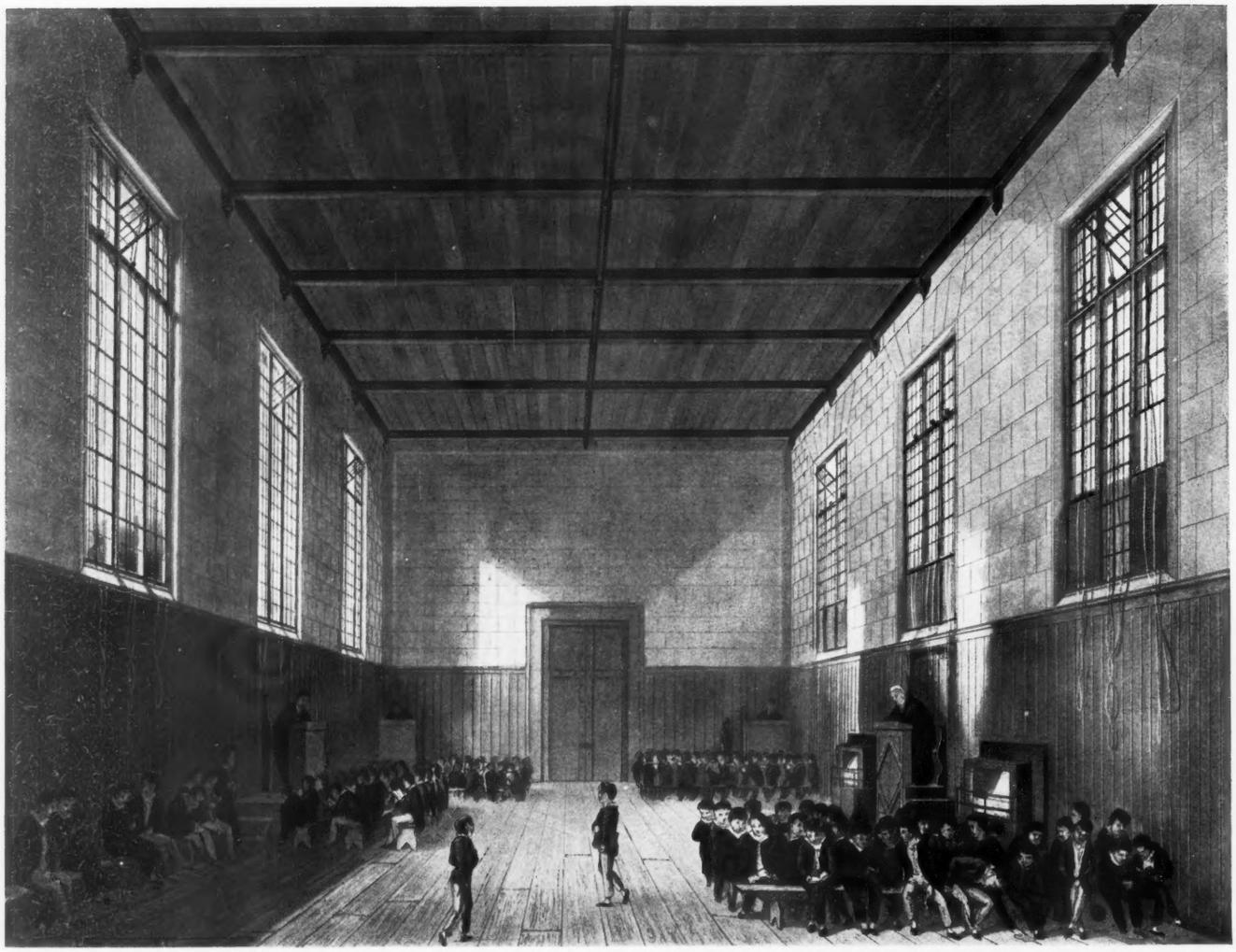
Subscribers to THE ARCHITECTURAL REVIEW *can have their volumes bound complete with Index, in cloth cases, at a cost of 10s. each, or cases can be supplied separately at 4s. 6d. each.*

An index is issued every six months, covering the months of January to June and July to December, and can be obtained, without charge, on application to the Publishers, 9 Queen Anne's Gate, Westminster, S.W.1.

THE ARCHITECTURAL PRESS, 9 Queen Anne's Gate, Westminster, S.W.1

Telephone: 9212-7 Victoria (6 lines)

Telegrams: "Buildable, Parl, London."



TOM BROWN'S SCHOOLDAYS

OR

THE GREAT SCHOOLROOM OF RUGBY IN THE EARLY NINETEENTH CENTURY

In place of classrooms with floors padded for silence, adjustable desks for the comfort of the pupil, scientific apparatus so complicated as to defy even technical description, we find the Rugby of Arnold's early days, and before, like other schools, with almost all classes gathered together in one room. In halls such as these amid a hubbub of which Cowper, Lamb, Toplady, Warren Hastings, Mackworth Praed and even Tom Brown complained, the flower of English civilization learned Horace by heart.

It is interesting to compare the nineteenth-century Tudor of this illustration, its grim economical lines and gigantic proportions, with the scholastic Tudor of recent years. Equally interesting is a contrast of conditions of education which will be found in Anthology on page 245, while the illustrations of science blocks and the articles by Mr. Heard and Mr. Evans, elsewhere in the issue, show that if modern educational methods are less successful than those of Rugby of the Regency, considerably more trouble is taken over them.

This illustration is taken from an aquatint in R. Ackermann's *History of the Colleges and Schools of England*, London, 1816, and is reproduced through the kindness of Messrs. Charles J. Sawyer.

What the Register Means

By CHRISTIAN BARMAN

On Saturday, December 30th next, there will take place an event of some importance to all who care for decent architecture in this country. A name will be written in a book at a certain office in Abingdon Street, Westminster, and the name will be that of the last untrained architect to enter the ranks of State-registered men. For it is no secret that the State register we have at last obtained is going to be a mixed affair to start with. The names of fully trained and qualified men will appear next to the names of people with no architectural training whatsoever. No doubt to many people this statement will seem a surprising one. Why should an untrained architect be put on the register at all? And if he is, what is going to be the good of the register? Surely, it will be said, the whole point of having a register is that it provides the public with a ready means of distinguishing the trained man from the untrained. If you begin by lumping the two together, how are you going to make the register fulfil the object for which it was set up?

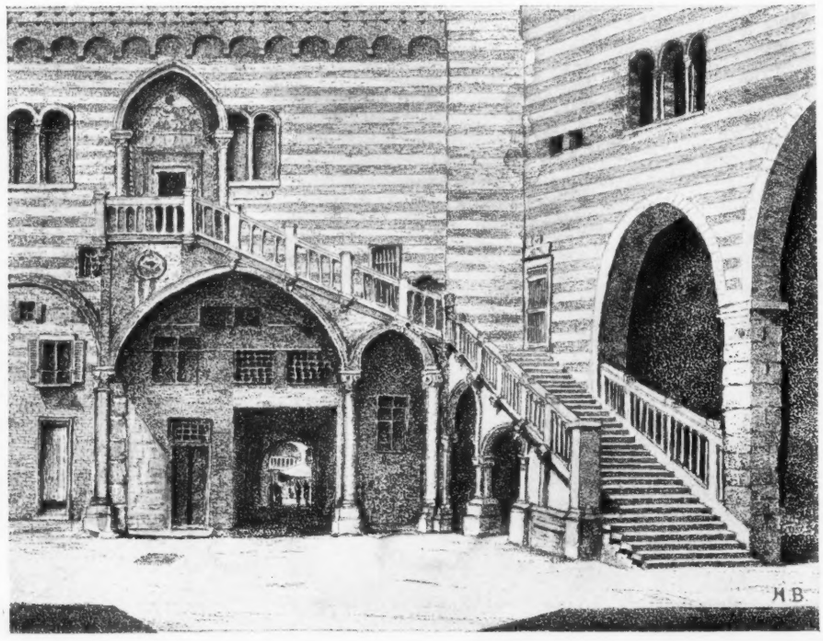
In answer to this question it is claimed by the people in charge that architectural registration is a long-range measure that cannot be made immediately effective. It is no good, they say, setting up a register of fully trained men only for the simple reason that there are not, at the present moment, enough trained men to make such a register worth while. We have to remember that it is only since the War that a complete academic course of training has been recognized as the proper introduction to the practice of architecture in this country. Before the War, English architects were nominally trained by private pupilage, which meant that as a rule they were not trained at all, but "just grew." The mediæval pupilage system was, in its time, an excellent system in architecture no less than in other professions and trades from mixed farming to ironfounding and chiropody. The only trouble was that like so many of our institutions it ceased to function long before anyone noticed that it was dead. Even during the years immediately following the War there were those who swore by the old methods and maintained that no school would ever be able to turn out an architect worth his salt. It is true that such statements were usually greeted with roars of laughter, but the mediævalist's faith dies hard, and it is only quite recently that the academic system has won general acceptance. Among the better-known architects practising in England today, only a very few have had a professional education remotely comparable with that which will soon be required of all. But an official register that did not contain the names of such people would discredit not only itself but the whole idea of registration for ever.

In another month, then, no one will care whether you and I accept the academic system or not: it will be firmly established for good and all. A person will no more be able to become an architect without passing through the schools than he will be able to become a sailor without going to sea. And so a simple calculation will tell us the date by which most of the original names, whatever they may stand for of great skill or little, will be erased willy-nilly. The register is like a machine that has to "run itself in" over a number of years before it can function as it was meant to function. It is self-righting and we simply have to trust it to work according to plan. There is something very admirable, especially in the circumstances in which we live today, about a plan put into being by people who are looking ahead a whole generation. The country has cause to be pleased with its plans for electricity supply and for passenger transport in London, but here is a plan involving an even longer view. This scheme, which will give us an undiluted professional body of the highest quality by, say, 1960 or '70, is a job that our legislators may well be proud of.

I have just said that in 1934 every would-be architect will have to go through the statutory course of training. I should, of course, have said every *registered* architect. The promoters of the Registration Bill would have liked to simplify the distinction between the qualified and

unqualified by making the one word *architect* suffice: on this point, however, the forces of quackery managed to beat them. But the point is really insignificant. I think many honest architects have allowed themselves to be unduly depressed by Parliament's insistence on a two-word label. What is the use, they will ask, of a State register that still allows any greengrocer or estate agent's clerk to call himself an architect with impunity? The question completely misses the point. There is no mystic virtue in the word *architect* by itself. The register exists to supply a hall-mark by which the qualified man may at once be recognized. It does not really matter what form the hall-mark takes, so long as the unqualified man is prevented from using it. And that is something the Registration Act certainly will not fail to do, even in its present form.

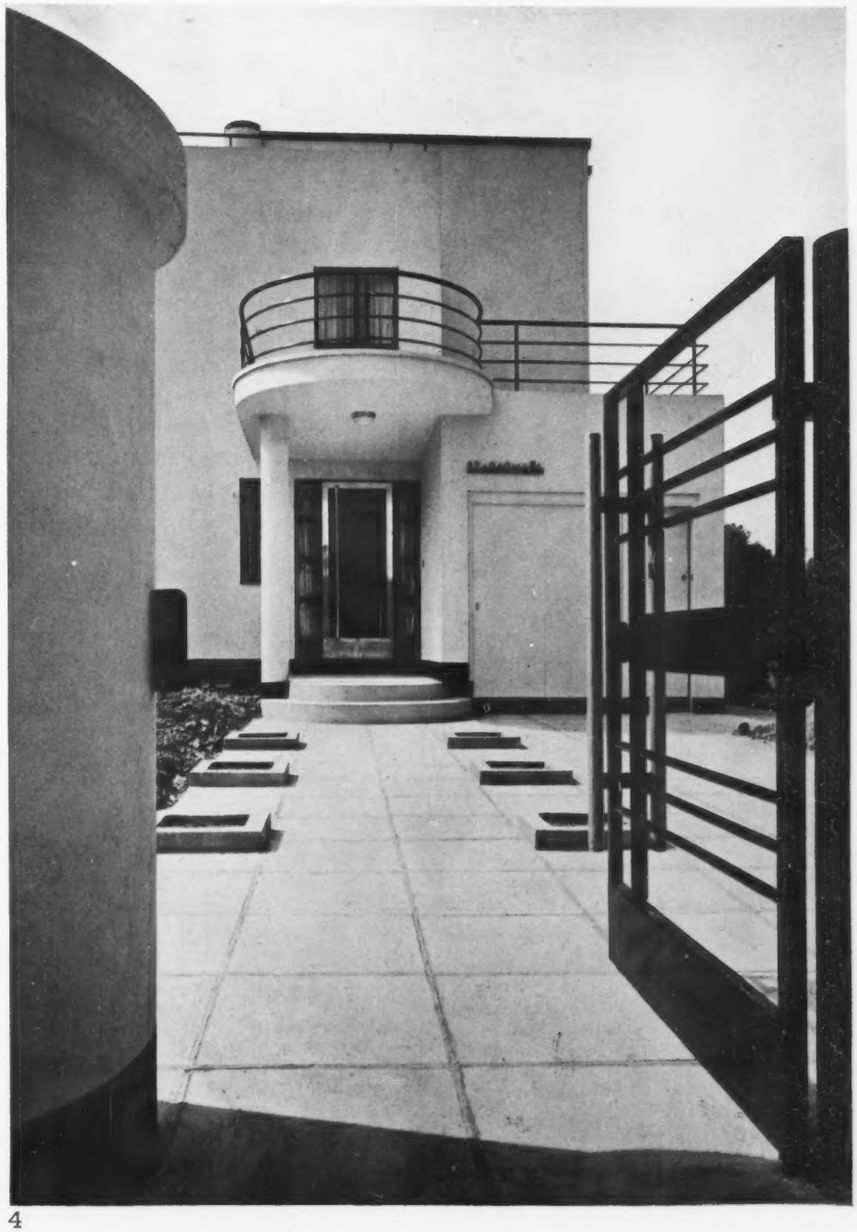
It may be that in a few years' time the one word *architect* will be protected by law as the two words are today. My own feeling is that it matters very little whether this happens or not. It is quite another question when we come to the possibility of the unregistered man being forbidden to practise at all. As a registered architect I am precluded from discussing impartially a measure which would have the effect of conferring a monopoly on myself and my colleagues on the register. And it does not, I admit, seem too easy to make out a public case for a monopoly of this kind when we remember that such an important profession as the medical one still is allowed to go on without it. In other countries, and in other parts of the King's dominions, unqualified persons who practise or pretend to practise any branch of medicine or surgery are liable to severe penalties. Only dentistry and midwifery are similarly controlled in England. Is architectural bungling more dangerous to society than medical bungling? Well, there undoubtedly exists a very large body of lay opinion which holds that it is more dangerous. Every reputable architect is constantly meeting people who hold surprisingly strong views on the subject. These people will maintain that a medical quack may kill one or two in the course of his career, but an architectural quack may affect the life or well-being of thousands. And they look forward to a time when it will be impossible for anyone in this country to get "plans passed" for a building unless it has been designed by a qualified architect whose name is on the register kept by the State. In some countries such a law has already been enacted. But it has nowhere been enacted, and it certainly will not be in England, until the register has been properly "purified" by the lapse of years. Meanwhile our immediate task is to start the plan going.



The SCALA DELLA RAGIONE is one of the glories of Verona. It was built by a Milanese, Gulielmo dall' Ossa, who was Podesta of Verona in 1183, to house the public offices. The staircase, leading to the courtyard, formerly had an upper colonnade of fine "Cinquecento" work but, in spite of its removal some thirty years ago, it remains one of the loveliest works of mediæval Italy. From a drawing by Sir Hesketh Bell.

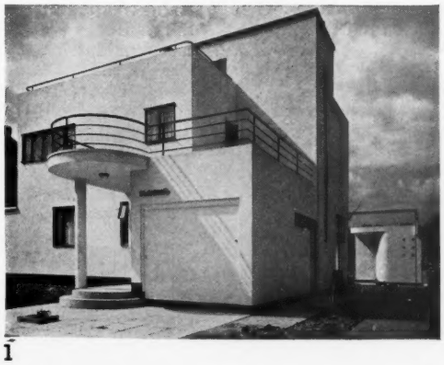
A HOUSE AT HORNCHURCH, ESSEX

STEWART L. THOMSON
ARCHITECT

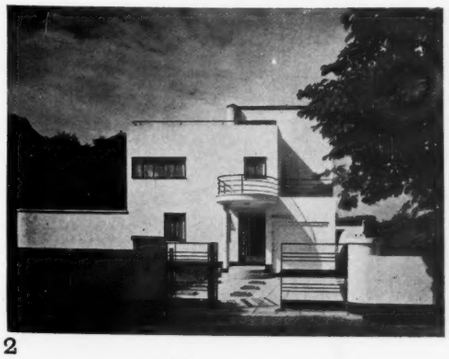


4

1. A detail of the entrance front showing the vertical window to the staircase which gives access to the roof gardens. In the background is seen the potting shed and greenhouse for sub-tropical plants. 2. The entrance front. The house is constructed of reinforced concrete and brick-cement, rendered externally pale cream. The metal windows and balustrades to the roof gardens are enamelled black. 3 shows the long horizontal windows to the bedrooms on the first floor and the Sun room opening on to the roof garden. The house is heated throughout from a central boiler with flush type radiators. 4. The circular cement rendered gate pier and wrought iron entrance gate Concrete paving slabs and flower boxes mark the way to the front door of aluminium alloy and glazed wrought iron grilles.



1

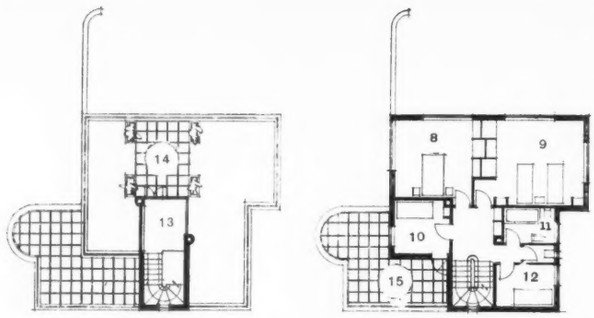


2

3

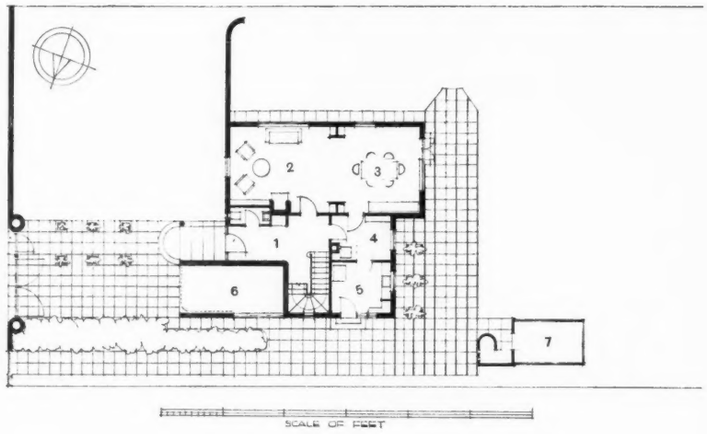
A HOUSE AT HORNCHURCH, ESSEX

5 6



The ground-, first- and roof floor plans. The rooms are
1. Entrance Hall. 2. Living Room. 3. Dining Room 4. Service. 5. Kitchen. 6. Garage. 7. Greenhouse. 8. Bedroom. 9. Bedroom. 10. Bedroom. 11. Bathroom. 12. Bedroom. 13. Sun Room. 14 and 15. Roof Gardens.

5. The Entrance Hall. Indirect lighting is housed in a specially designed reflector abutting against a mirror which reflects and doubles it. The electric synclock is housed behind an acided dial on the mirror. The hands and numerals are chromium-plated. The walls and ceilings are stippled peach colour. The carpet is mushroom colour, and the curtains are of silver oiled silk. 6. The Living Room. The fireplace surround is in Botticino marble with an illuminated and mirrored recess above. The edges of the shelves to the recess and bookcase are covered with strips of aluminium alloy. Indirect two-colour lighting is obtained from a specially designed reflector. The doors and architraves are flush walnut, veneered. The walls and ceilings are stippled platinum. The carpet is mushroom colour and the inner curtains white french voile. The heavy curtains are of silk beige.



The Street

by Frank Pick

Top. THE PANTILES, TUNBRIDGE WELLS, KENT. A by-way for shopping, without vehicular traffic. Bottom. The new shopping centre at NORTH ILFORD, ESSEX, straddled along the by-pass, full of vehicular traffic.

It is necessary at the outset to define what is meant by a street. It is a paved way giving access to buildings, and so eventually framed in buildings. There are two kinds of streets. There is the Mediterranean or Oriental type of street which has persisted down history and survives still. A narrow paved way, sometimes with narrow footwalks, running between buildings whose faces are all turned inwards on to courts. It is to be found disinterred in Delos, in Ostia and in Pompeii, surviving in Pisa and Lucca. The street is only a means of access dividing up the town into insulæ or island building sites for one or two or three houses, according to their size.

But when the buildings face outwards upon the street, the street gains in importance. It must now be widened for light and air. It must now become pleasant to look at because it is the view. The Northern and Western peoples gave a new character to the street, and it is their street which presents itself for discussion and criticism. Life got into the streets. On fine evenings, before there were parks, the people took the air in the streets. The shops opened directly upon them: the workshops too. The house doors had a porch and a seat, for gossip. The windows of the houses gave upon them and were built out with quaint irregularity for the better observation of what passed by, which became a topic of conversation, a source of entertainment. The dancers footed it on the streets as some curious survivals persist to remind us. In the squares the morality plays were enacted. Through the streets the church processions took their way on saints' days and festivals, and once or twice a year the fair filled them with its babel and tomfoolery. Every week there might be a market and the market cross was set up to be a centre for chaffering. Maybe the best examples of these old streets are to be found in Germany. At any rate, there are many delightful illustrations to be obtained from the old German towns. The street was still a means of access, but it was also a common promenade and playground, a social contrivance.

Then the street being there, it was made to serve, bit by bit, for all kinds of services. The water supply, first of all, whether as a fountain or conduit, or even as a common pump, took its place half for use but also half for ornament. Later it becomes a pipe beneath the surface. The open drain or gutter by the side became the sewage system, buried again. Gas, when invented, was buried there, and later still, the electric cable. All sorts of traffic got into the street and each tended to be hidden to the great disturbance of the surface of the street, and no one thought it worth while to think about what was happening, until the chaos of our present city streets had arrived.

Meanwhile, the wheeled traffic of the street surface in some cases grew so much that the street was filled. Here was a tiresome problem. The street must be widened. All streets must be widened, for this wheeled traffic will grow everywhere. And the wheeled traffic goes on growing and still the struggle to keep pace with it by enlarging the street goes on as well, until in the end the traffic masters the street and the conception of a street changes and it becomes, first of all, in our minds, a means for the movement of traffic. All other considerations become secondary and it is with this harmful and tragic fact that we have to deal.

Yet the truth remains, that the street is not one but many things. There is variety in streets, which means or should mean variety in design. The town planners draw parallel lines on their maps and diagrams to signify streets. They piece them together into patterns, with some of major importance and some of minor importance from the point of view of traffic. Some they mark as suitable for shops, some for industry, some for houses, but the lines are almost always the same. The width between them may differ, whereas the whole conception of the street should differ and this is where much town planning breaks down.

The local authority has a similar monotonous notion of what a street is. It draws up bye-laws to govern its disposition and construction. It prescribes widths for footways and for roadways. It fixes cornice lines occasionally, and building lines regularly. And the building lines are set back from the street frontage lines to ensure that most wasteful and distasteful piece of ground, the front garden—too small, too ill-sited, to be a decent garden. Often no more than a paved yard. Always, in our insular fashion, fenced in with walls and railings so that its ownership or seclusion is visibly and emphatically attested. In America they have the good sense and the economy not to enclose the building plots so that in the richer quarters, where plots are generous in size, the houses look as though they were scattered in a stretch of parkland, and in the smaller townships the street has a fresh and open green verge.

The local authority limits the height of buildings. To secure a reasonable angle of light the building is often contorted to match commercial interests, rising as and when it can, regardless of architectural form. For fire prevention it requires certain structural features, as, for example, the carrying of the party walls through the roof. For sanitation purposes, it exposes the entrails of the house. In all sorts of ways, by its bye-laws, it destroys beauty and charm and tends to regimentation and formality. It is only quite recently that sufficient elasticity has been secured to allow of the close, or cul-de-sac, for residential purposes, in which the street shrinks to a minimum and the gardens correspondingly expand, while traffic, with its noise and fume and bustle, is for the most part excluded. Yet the conception of a residential close is not yet fully realized. The sense of community is often ill expressed. The aloofness is insufficiently secured.

Amid such limitations and obstacles, the design of streets languishes. There is a sort of despair or resignation about conformity. No one appears to set to work to define what a street for a particular purpose ought to be, to make the street a specific problem. Take such questions as the relationship of road and footpath widths, the function and amenity of trees, a central promenade, the extent and distribution of the lighting. Where are they discussed and answered? Take a street devoted to pleasure with theatres, cinemas, cabarets, restaurants, as its main constituents. Should not the standard street lighting be moderate to allow the several attractions to set each their own standard of entertainment lighting? And where in a pleasure street the places of entertainment empty their crowds almost simultaneously, should not accommodation be provided for them in the street itself? It would appear possible to go on putting questions of this sort for a long while, but enough has been said to direct attention to the street as not one but many problems in design waiting for study and exposition, if only we will put aside the predominance of traffic considerations so that the other considerations leap to the eye again as they did before traffic over-asserted itself.

The Street

A STREET PLAYGROUND IN BASLE. Chains are stretched across the street to keep out vehicles.

A STREET IN HAMBURG, devoted to pleasure. Street lighting is replaced by entertainment lighting.

ROAD REPAIRS IN CORNHILL, LONDON. A consequence of the misguided policy of burying those traffic services which can be buried.

THE CRIMEAN MEMORIALS, WATERLOO PLACE, LONDON. The street as a dump for statuary, to which other accretions are added.

Top. A HOF IN LÜBECK. Bottom. FLATS AT MILLBANK, WESTMINSTER, LONDON. A contrasted treatment of a common problem.

Top. VIA DEL SANTO, PADUA. Bottom. VITTORIA EMMANUELE ARCADES, MILAN. Another contrasted treatment of a common problem.

Top. LAVENHAM, SUFFOLK. Bottom. RUE MALLET-STEVENS, PARIS. A comparison of old and new architecture as the setting of a street.

GUINNESS TRUST BUILDINGS, AT STAMFORD HILL. Regularity that destroys charm. The machine-like house for a still unmachine-like population.

The framework of a street is a series of factories, or shops, or houses, or buildings of some sort. To be a satisfactory framework it should be continuous, and not discontinuous. This may result in monotony, but maybe it is no more than an indication that the architecture is dull or bad. It should be possible to secure diversity within some reasonable measure of conformity. The greatest mistake is to align all the buildings to a common frontage line. This creates a wall of buildings which may be most forbidding, like the buildings which flank Lambeth Bridge on the north side of the river. Some types of building need more space in front of them than others. A doorway, for example, of ample width, inviting people in, wants little street space, but a shop window, if attractive and bright, requires space for those who stay to look into it. Offices want less space than shops, houses less space than offices, though often enough the houses secure the most.

If old and picturesque streets are examined in detail it will be found almost always that they have a varied and irregular frontage line, and it is the recession of buildings down the street, with their changing notes of emphasis, that in large measure constitutes the beauty.

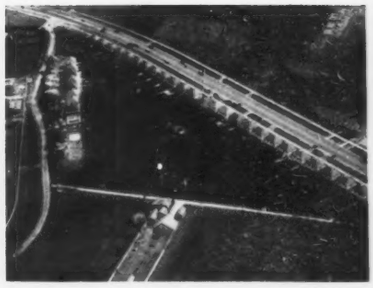
The "hit and miss" construction of villadom can never create a good street. The line is continually broken, so that at best the houses can look like soldiers on parade, or at worst like an irregular tatterdemalion queue. Or they may be of so diverse a character as to produce no effect at all. It is the effect of the street and not of the houses that matters. Yet our method of designing streets is not to design them at all, but to allow the greatest freedom and licence to individual expression in the houses, shops, or other buildings of which they are composed. The result is that almost every street becomes a hotch-potch. Even so sedate a street as Pall Mall offers a separate treatment for each section of its frontage, and the frontages are, some of them, quite narrow and insignificant. Oxford Street is an outragous mixture, unworthy of being the principal street of any city. Building shouts at building in a blatant and distressing fashion. Every style of architecture is illustrated, and none in harmony. There is one shop of which one-half is of the prescribed standard of architecture of the Crown Lands Authorities, a feeble Frenchified affair, and across the road the other half is a more severe and modern rendering of the same style. They do not match. They do not fit together to look a whole so that even the single ownership has not saved the street from this mishap. The jumble which constitutes the façade of a modern street is sometimes saved from confusion and insignificance by the weight of some special building which serves as a focal point and gives emphasis and unity to the view. Bow Church, in Cheapside, is as good an example as any. Or sometimes where a street is blocked by a building, such building may give distinction, just as Bush House gives distinction to an otherwise featureless Kingsway.

It is an incorrigible habit of our English people to avoid planning. We seem to delight in expediency and improvisation. We even call the absence of a plan common sense, because it keeps things in a fluid, adaptable state so that, whatever turns up, something may be done about it. When we lived in a simpler, more straightforward age, this habit of ours did not guide us so badly. There is street after street in many a country town

AVENIDA DA LIBERDADE, LISBON. The street as a promenade.

Top. THE FAIRMOUNT PARKWAY, PHILADELPHIA. Cutting new roads across town and country. Bottom. THE GREAT WEST ROAD.

THE GREAT WEST ROAD AT LAMPTON. The old and the new road contrasted.



Ribbon development on the GREAT WEST ROAD.

HIGH STREET, EDGWARE, fifty years ago, and today. A widening that destroys scale and character.

Top. A STREET IN ROTHENBURG, sixteenth century, and bottom, A STREET IN ESSEN, nineteenth century. A comparison of treatment.

Top. TENEMENT BUILDINGS IN AMSTERDAM. Bottom. HOOPERN STREET, EXETER. The street as a prison.

A STREET IN ZEHLENDORF, BERLIN. Concrete box architecture for a garden suburb.

which is consistently beautiful, although quite obviously not one of them was deliberately planned. Someone built a house. Another added to it. Someone else built a house, and another added to it. Yet all the houses adjust themselves one to another. Their very vagaries are an element of beauty. The irregularity of their setting and finish is full of charm. The builders knew what they were about. There were no professional architects in those days. The lore of architectural treatises was luckily unknown. Times have changed, and we can no longer rely upon common sense, natural intelligence, good manners—whatever you may choose to call it—to keep our streets neat and tidy, let alone beautiful. Freedom is gone, and design must enter in.

How are we to ensure pleasant and harmonious streets? Not by regulation and prescription. The new Regent Street is dull enough. It seems to me that the architects must take the blame. They have no living tradition. They will toy with any notion and they will even combine a vertical and horizontal treatment in one building, as in the cinema at the top of Vauxhall Bridge Road, near Victoria. They will seldom take count of their neighbours. They seem almost to scorn to do it. The Egyptian cornice of Adelaide House placed upon a modern building does not disturb them in the least. The Grecian portico of the Port of London Authority's Offices, again sandwiched into a modern building, does not give them any qualm, and they can pile on top of it a tower which has no relation to any of the accepted styles, and is merely a vehicle for extravagant sculptures of sorts. A Gothic arcade can be run across the front of a nineteenth-century building without suggesting to them any solecism. The Law Courts in the Strand are as dark as the law itself. Fitting, you may say. The same Gothic style can be employed on the Natural History Museum of South Kensington. Whatever they or their clients fancy, that they do. Now if there were a living tradition of architecture this could not happen. Every architect would be trained in the same school. He would have inherited a common outlook, and there would in consequence be a steady evolution of current design, not a harking back and borrowing from other ages and other countries. The Metropolitan Museum of New York has just issued a book dealing with Aztec sculpture under the title *American Currents in Modern Art*. It is but indicative of the absurdity of what is taking place.

The old streets wore a family likeness even amidst the variety of their buildings, because they were exemplars of a style, and that style represented the current life and attainment of the times. In modern Berlin there are now quite a considerable number of buildings in juxtaposition in the functionalist style of architecture. One is therefore able to judge this style as a whole, and not in relation to particular buildings. I confess it appears feeble and inept, but I confess at the same time that it probably represents the current life and attainment of our times and therefore must be accepted, and must remain as a memorial of this early part of the twentieth century for the critical amazement of our successors. Do we really want to be remembered by architectural layer cakes?

The formal street is not a great success. I doubt if anyone can muster much enthusiasm for the Rue Castiglione or the

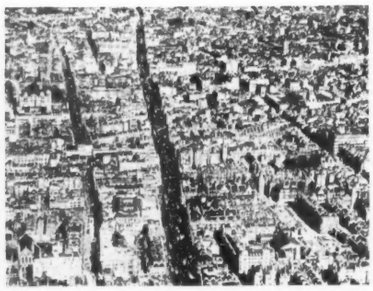
The Street

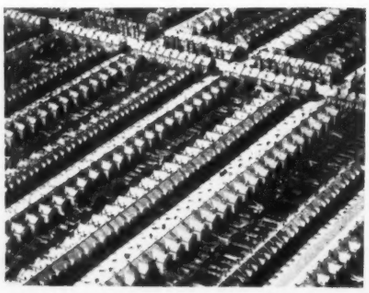
The CHANNING BUILDING, NEW YORK. A street on end.

OXFORD STREET, LONDON. The modern hotch-potch of buildings, traffic and advertisements.

A STREET IN SALISBURY. A contrast in old and new street frontages.

Top. EASTERN AVENUE, CRANBROOK ROAD, SOUTHEND. Bottom. An old street intersection, QUATRO CANTO, PALERMO. The change of scale to meet the traffic has resulted in a change from beauty to plainness.





Top. OXFORD STREET, LONDON. Bottom. FIFTH AVENUE, NEW YORK. Growth versus Planning.

Top. The grid iron of streets at SOUTH WIMBLEDON, LONDON. Bottom. The maze of streets at BECONTREE.

NEW TOWN, EDINBURGH. An ideal and a forerunner.

Rue de Rivoli, in Paris. Their preservation will become more and more irksome. The Unter den Linden, in Berlin, by transferring the emphasis from the buildings at the sides to the avenue of trees in the middle escapes criticism. There is much to be said for seeking an element of unity and uniformity not in the façade, but in some feature belonging to the street itself.

In considering the variety of design that is necessary to a street, there is much to be said for arcades when the streets are to be used for shopping or for promenade. It is amusing to compare the old arcade that is found in many Italian cities with its modern equivalent in our cities, the canopy. The one is generous and recognizes its duty to contribute to the communal well-being. The other is mean, and embodies the selfishness of a competitive tradesman. "Enter my shop under cover if you will; you shall not go under cover elsewhere," it seems to say. The change of attitude is a comment upon our current professions. Yet in our anxiety to widen streets for traffic, little resort has so far been made to the arcade, although it is a comparatively cheap and effective means awaiting skilful exploitation.

Now that our shop windows tend to become the stage upon which skilled window dressers produce—in the theatrical sense—a display of goods, artificial or constant lighting has become accepted, and the plea for daylight which stood in the way of arcades grows less assertive. This objection to the arcade therefore must slowly die. Arcades afford sheltered footpaths and seem withdrawn from the whirl of traffic. They are justified by the added comfort and convenience which they afford to those who use the streets, and it is for consideration whether the shopping street should carry any vehicular traffic at all. There is an old street in Stockholm which runs across the islands which is now closed wholly to vehicular traffic and left to sightseers and shoppers. Streets for carrying the vehicular traffic have been constructed on either side and are connected to the central street by narrow passageways between the buildings, originally left as a precaution against fire. This street is now dead so far as traffic is concerned, but it remains fairly busy with folks. It is an idea worth considering. A shopping street does not want traffic. It wants leisure, intimacy, quiet, which only a street which is relatively narrow and aloof can afford.

Such a street, too, might be blocked at the end so as to give the sense of a confined space, for this helps the street to a more intimate air and ensures an additional measure of quiet. The blocked vista theory which at one moment beset the town planner was good if used with understanding and discretion, but not as a theory of universal application.

If we then turn to the ornament of the street, we arrive at a problem which is bound to be troublesome, but I think it may safely be said that the centre of a street is not a place for statuary or ornaments. They can only become obstructions, preventing the free flow of traffic, securing vested interests in certain positions and becoming obstacles to improvement and change. When it is noted how many opportunities for the introduction of statuary and other ornaments are available on bridge abutments, on terraces, on buildings, it would surely seem quite unnecessary that free statuary should be placed in the clear way of our streets. When it is so placed,

Top. The formal street, LA RUE CASTIGLIONE, PARIS. Bottom. The central avenue as a unifying feature. UNTER DEN LINDEN, BERLIN.

Top. An old township in NEW JERSEY. Bottom. The problem of the front garden. on the BATH ROAD, HOUNSLOW.

Top. BOND STREET, LONDON. Bottom. A STREET IN HILDERSHEIM. Studies in hanging signs.

Top. STATE STREET, CHICAGO. The typical American city street. Bottom. FROM THE LINK BRIDGE, CHICAGO. The best of American street architecture.

it seems to attract to itself all kinds of other obstructions so that in the long run the statuary makes a very poor impression. For instance, the statue of King Edward VII, in Waterloo Place, is mostly a centre point for a mass of parked cars, and the Crimean War memorial, as now grouped at the bottom of Lower Regent Street, has become a site upon which has been placed a sandbin, three or four lamp posts, several street bollards, litter baskets, ladders, and other miscellaneous street equipment, so that it would seem most reasonable to rule out of court altogether the placing of loose ornaments in any street. Let us attempt to give statuary an architectural and not a free setting. Let us use it to add grace and splendour to our façade. Only a fountain might demand an isolated position, but there is not a good fountain in all our London streets. Our love of water is nowhere expressed. It is a chastening reflection.

But ornament of another kind is plentiful in our streets. The commercial spirit enters in. The shop front, under the impetus of our modern architects, has ceased to be a subordinate part of a building to become an advertisement in itself. The shop and not the goods seems to matter most, and soon the clamour of shops will kill trade, let us hope, for the limit of stridency seems to have been reached. Now that the modern treatment of the problem of the shop front has ceased to be a novelty, we can see the evil that has been wrought. One modern treatment outstartles another, and glass and metal and enamel and lighting have been prostituted for effect. Falsity is the keynote. And as if that were not enough, the buildings themselves have been disfigured by, or even buried beneath a clutter of signs and notices so that, if they had any architectural pretensions as the framework of a street, they have been lost. The new Tivoli, in the Strand, is a test case for it is not an unpleasing building if it could only be seen. And what does it all avail, all these conflicting efforts cancel each other out and the end is confusion and inanity. The Underground Company sought publicity through its stations, but it was soon beaten in the rivalry of illuminated signs, floodlighting and so forth. Morden Station, which was once the bright landmark of its district, is hopelessly overpowered by a cinema which has come in on the opposite side of the road. Now it competes by its very plainness, and succeeds because so far there are no imitators. Even architecture is competitive. It seeks to give novelty to its clients rather than order, and its clients tend as much as they dare to the grandiose. The shop becomes a store; the almshouse, a poor law institution; the house, a block of flats; the café, a corner house. There are economic causes at the back of all this that I must not touch on here; but there is also this competitive, this commercial spirit. In New York, it has carried the skyscraper up and up in a vain emulation, a veritable tower of Babel, so that the Chrysler building overtops the Channing building only by concealing a metal pinnacle or finial which is hoisted into position at the last moment to the discomfiture of its rival neighbour. And a skyscraper wastes so much of its space on lifts, with its series for one set of floors or another, with express and stopping services, that above about 40 storeys the building becomes unprofitable except as an advertisement or show place.

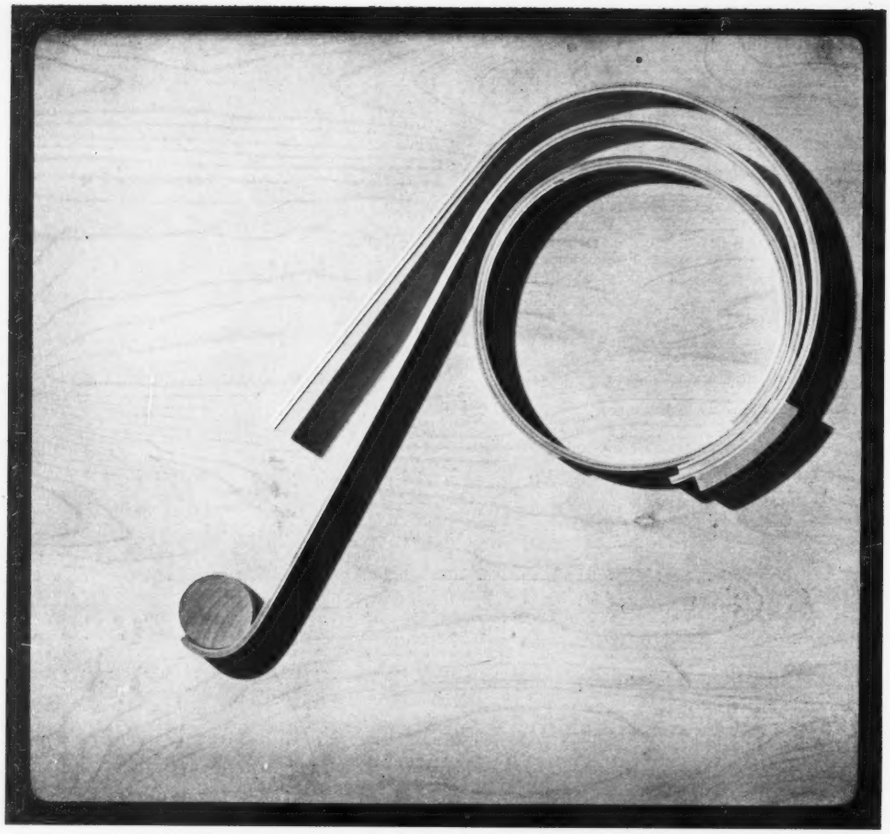
And before I leave the street and its setting, let me turn again to the notion that streets are primarily for traffic. Because of this notion they are being widened and straightened. The angles at street intersections are being awkwardly splayed, spoiling building sites, or the whole intersection is being developed into a circus with a waste of sorry grass or paving stones in the middle. They are being filled with signal lights, white lines, direction posts, islands, crossing places, until they almost cease to have any æsthetic value. For all these things are afterthoughts and lack any unity of design or purpose. A street is widened and straightened for speed or fluidity, and then blocked by cab-ranks or islands. Crossing places for pedestrians are marked and defined, but temptations to cross elsewhere are still left. Signal lights are installed to regulate the flow of traffic and then circuses are inserted to impede it. There is no coherent plan or policy underlying it all, with the result that finally they are filled with a jostling mass of vehicles and pedestrians. That there must be streets for traffic I would naturally be the last to deny or refuse; they must be adequate and they must be designed, but streets for traffic are, maybe, of little use for anything else. Let traffic have its streets and let them be efficient traffic streets. They should be defined and laid out to form a coherent system of communication, a network of transit facilities adequate for the city dependent upon them. Their frontages could be used for commercial, industrial and, of course, traffic purposes. If desired, the buildings on them might even look away from them. Once traffic streets are settled and out of the way, the other streets can be dealt with differently. What traffic comes into them must be subservient to some other purpose. They will connect with the system of traffic streets necessarily, but they will not be of them. A traffic route is not exactly a street. A street is a place for gossip, for loitering, for exchange, for trade, for recreation. It is for the city dweller a place to live in. It is the setting of urban life and so of civilization.

And before I close, one last aspect of the street briefly. The street is the unit out of which cities are built. Just as a mean street is saved by some dominant and distinctive building, so an indifferent group of streets may be saved by an effective treatment of a few. Maybe in France and Germany this truth is most readily driven home. The provincial cities of France and Germany have at one time or another enjoyed the attention of the local aristocrat and landlord. Bordeaux has a triangulation of elegant streets upon which many dull ones are safely strung. Nancy has a town centre of considerable merit and dignity. The radial streets of Karlsrühe are focussed on its princely palace. Dusseldorf has developed a splendid axis for itself. London fails to claim its fair share of good streets. The town-planners give too little weight to the idea and character of a city which is expressed not uniformly through its whole texture of streets, but here and there in some extravagance, if you will, some extraordinary grouping or treatment of a few related streets. Not necessarily the main traffic streets as many hastily suppose, but streets which are to express the spirit of the city itself and the magnificence of its citizens.

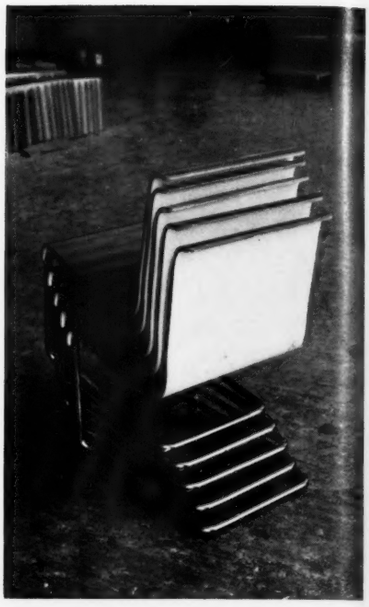
And a city is built up out of a variety of streets and out of the extent of that variety and its skilful grouping comes the character and efficiency of the city. There is a true economy about a well-designed city, but it is an economy expressed through its parts, the streets themselves. May we have architects and town-planners who have thought out the implications of our streets.

This article was read as an Address to the Art Workers' Guild on October 6 last.

STANDARD W T



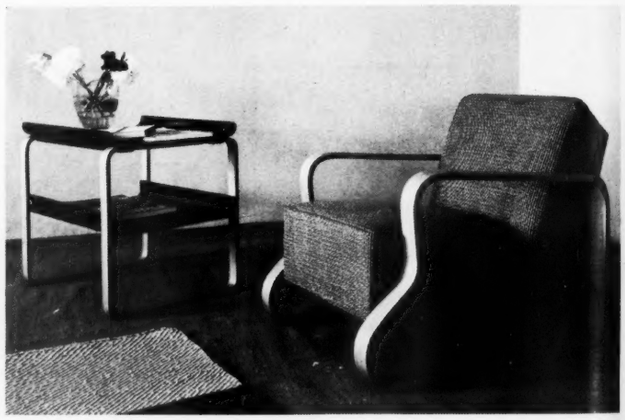
A wood-plastic model illustrating the elastic properties of the laminated strips of timber from which a sheet of plywood is made up.



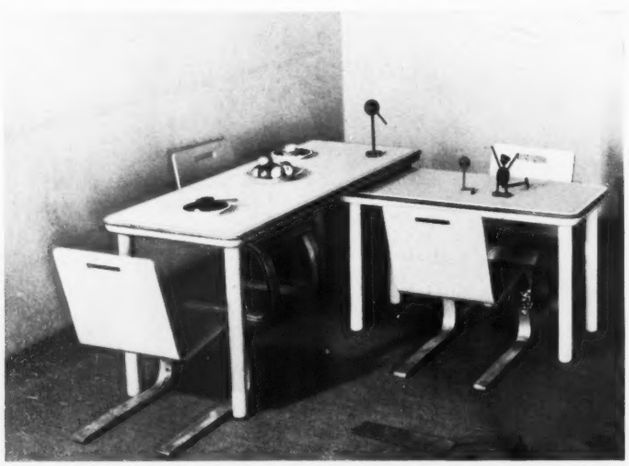
Nesting chairs of a composite plywood and tubular steel model (plywood one-piece chair-backs mounted on a chromium-steel base).

Under the auspices of THE ARCHITECTURAL REVIEW there was held last month an exhibition of Finnish furniture, textiles, hardware and decoration at Messrs. Fortnum and Mason's, 181, Piccadilly, London, W., which proved conclusively that Sweden is not the only Northern country to produce excellent examples of craftsmanship and design. Illustrated here is only one section of the Exhibition, the furniture designed by Alvar Aalto whose sanatorium was illustrated in this year's September issue of THE ARCHITECTURAL REVIEW. Finland is possessed of any amount of timber, and it has been necessary for her to find some use for it, beyond the usual subordinate or merely decorative purposes to which it is usually put in these days of concrete and steel. Obviously such intricate woodwork as illustrated on pages 230 and 231 is now an anachronism. Would that this were realized over here.

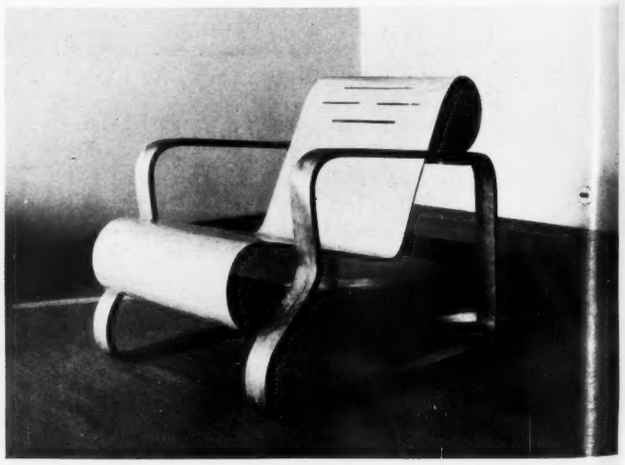
In Finland the processing of wood has been advanced beyond the bounds of good old English belief, or indeed of belief anywhere else. But now that we have had an opportunity of seeing this new means of mass-producing cheap furniture, sanguine hopes may be raised for the revival of the furniture trade in this country. Such processing of wood is of international importance. And bentwood can be used not only for making cheap and seemly furniture which is comfortable, light and easy to move, but it will soon be seen in the bodies of cars. For England it may at last spell death to the fake Queen Anne.



A chair with combined arm-rest and base framework with a fully upholstered seat-back covered in a Finnish material made of artificial silk waste. In the background is a two-tier plywood table.



Children's painted furniture and toys with children's rocker-type plywood chairs. Designed by Aino Marsio-Aalto.



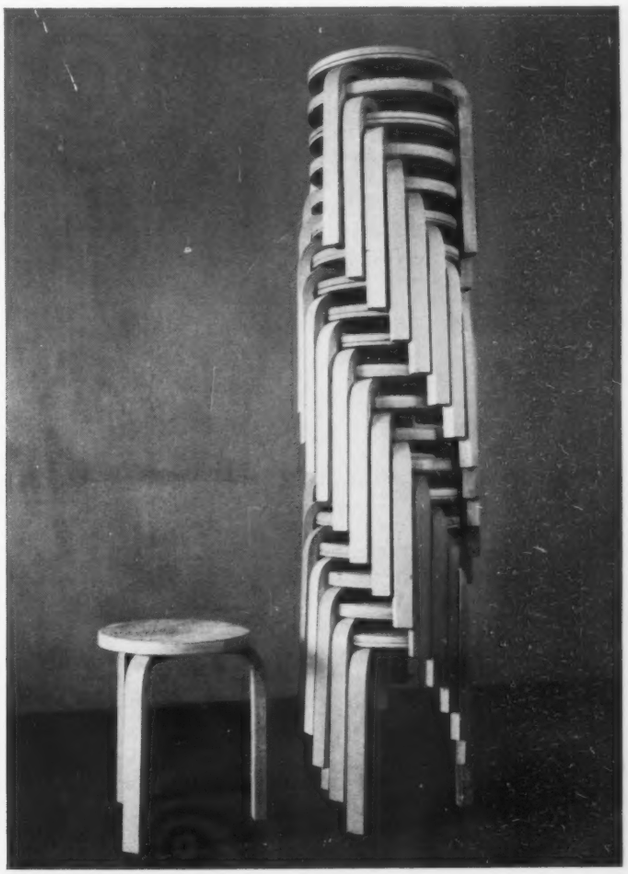
An all-plywood arm-chair of hammock type made of eight pieces of 2 mm. plywood with a birch facing veneer.

WOODEN FURNITURE AT THE FINNISH EXHIBITION

ALVAR AALTO, *DESIGNER*

Left and Right.—Rocker-type plywood arm-chairs ; the left-hand one is unupholstered and veneered in natural-coloured flame-birch ; the right-hand one is half-upholstered and with a raised back.

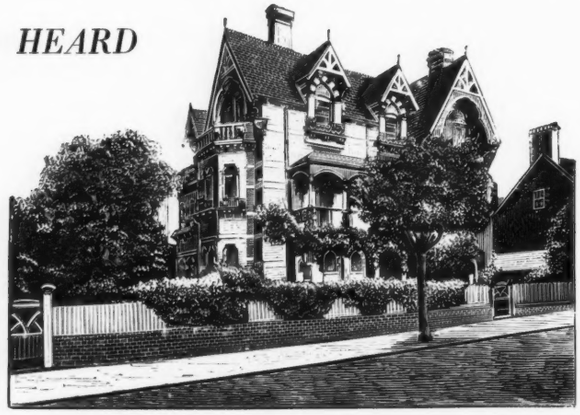
A kitchen chair of ordinary unlaminated wood with plywood seat-back painted pale blue. The knuckle-joints are of special spliced construction.



A standardized solid wood three-piece stool with spliced knuckle-joints ; and on right a pile of these stools as stacked for packing. The table in the background of the top left-hand picture on this page is of similar construction but is veneered in flame-birch.

Archimedes or Science in School

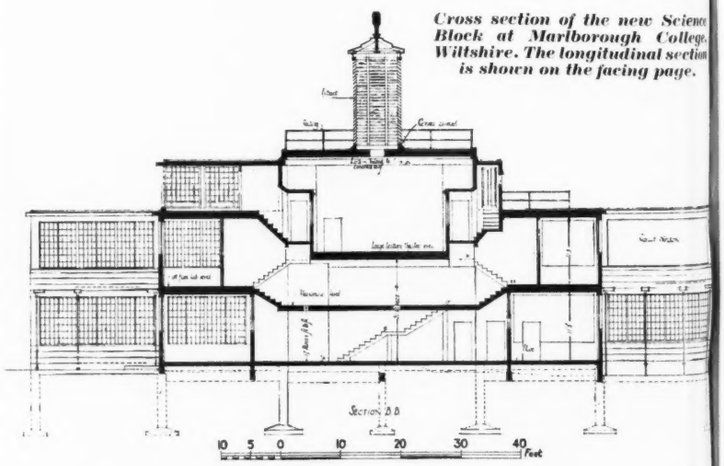
BY
GERALD HEARD



"Even the schools which were not Gothic foundations insisted on confining themselves in Gothically-revived cells as the hermit crab seeks for a twisted shell in which to case itself."
A wood engraving by E. J. Tavener.

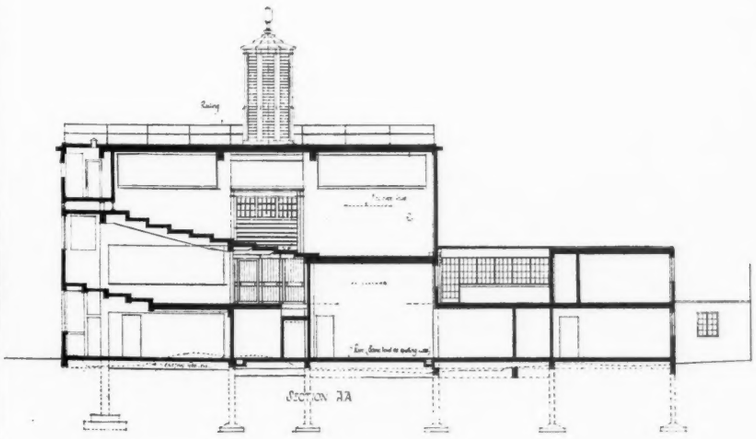
CAN the buildings we live in really express and influence our character? That is a question every onlooker at architecture ought to ask: the dyer's hand is subdued by what it works in. Yet nobody, from architect to domestic, seems now really to expect housing to have any temperamental effect on the housed. Of course we are all used to the statistics produced by slum-clearers—how back-to-backs have such and such higher disease rates than semi-detacheds. But such physical facts are really not the concern of architects but of builders. They are negative things, sanitary devices to keep dwellers from falling ill. The problem that belongs specifically to the architect begins when these necessary preliminaries are settled and out of the way. The purely architectural question is: Can a building be so finely designed that it not only expresses with a noble co-ordination all the requirements of the persons who inhabit it, but can it do so with such mastery that to live in it is a liberal education and to find the mind continually stimulated to creativeness? Present day architecture is not seldom scholarly and quite frequently ingenious, but what newly erected buildings have now any "empathetic" influence on those they contain? Has there been constructed in our life-time an interior in which people have felt spontaneously: Here in these surroundings not only am I conveniently sheltered, but my mind is enlarged and my spirit stimulated?

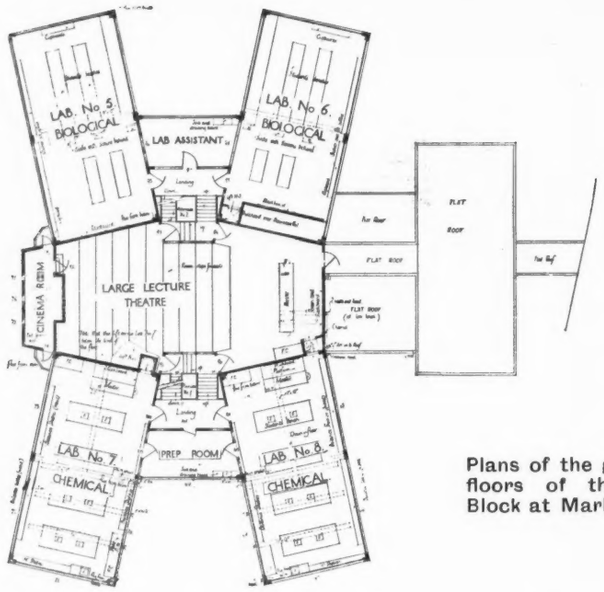
That may seem to be asking a great deal of architecture. Is it not enough if a building is convenient for its users and academically sound? Yet architecture undoubtedly once was capable of exercising this profound influence, all the more efficacious because it was so deep and satisfying as to be almost unconscious. Once, like its little brother costume, architecture gave to the men it housed not only protection, but "that heightened sense of physical awareness," that feeling of being properly set and mounted, a feeling which though it cannot analyse how the architect or tailor has brought about the effect, knows when it has been done, responds to it and shows, by acting finely, that a fine setting provokes a fine outlook. Psychology has shown how much we are affected by our appearance, our setting. Is not our personality only the "persona" or stylized form through which we express ourselves? Our style is the highest term of our nature. A meanly inappropriately housed and dressed people may still be noble but without doubt they are behaving finely under a very serious handicap. At best they are cramped and repressed, afraid to say fully what they mean and to think freely as they wish. It is an historical fact that fine, clear building and clear thought developed together. The late Professor Graham Wallas in his sociological study, The Great Society, pointed out that the rise of free thought and original speculation in Northern Europe goes hand in hand with the building of those noble galleries which,



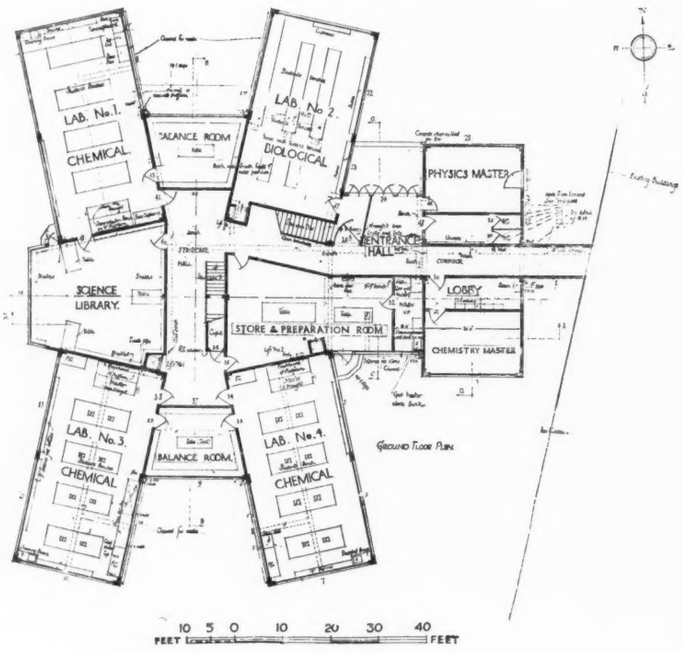
Cross section of the new Science Block at Marlborough College, Wiltshire. The longitudinal section is shown on the facing page.

The new Science Laboratories at Marlborough College, Wiltshire. The architect, Professor William G. Newton, describes this illustration as "light in the night; the truth seekers at Marlborough." When discussing with the architect the sort of building he required, the Master of Marlborough said: "I have in my mind's eye, not so much an academic block, as generally understood, as an *elegant factory*."





Plans of the ground- and first-floors of the new Science Block at Marlborough College.



CONCRETE : GLASS : STEEL.
A chemistry laboratory in the new Science Block at Marlborough College.

appearing first in the great sixteenth-century houses, become a principal feature in Wren's domestic designs.

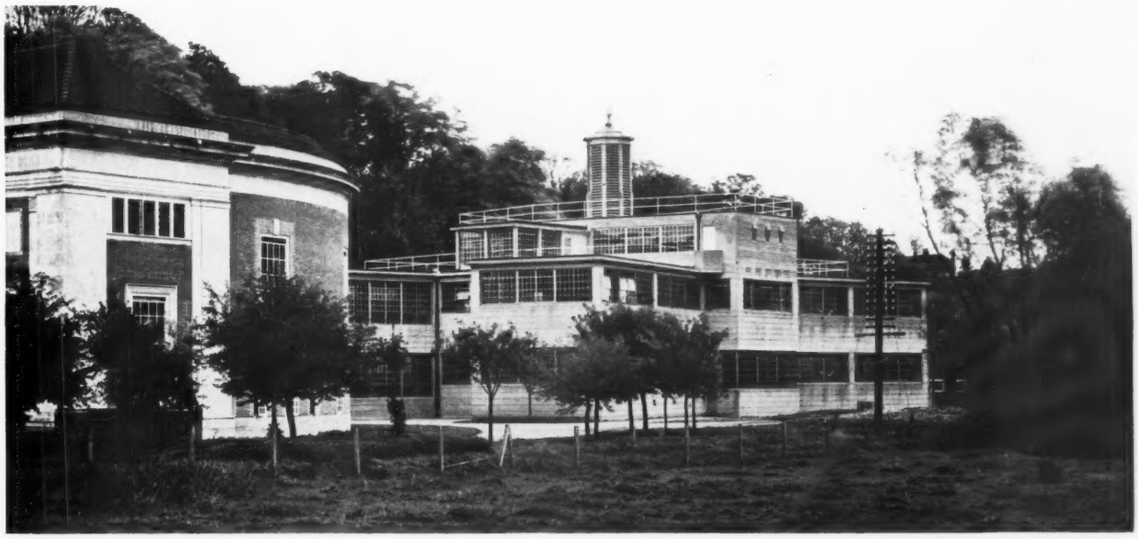
And still, today, costume does have an almost unconscious but all the more profound effect on its wearers. Granted that it is a great Conventional Art in an advanced state of decadence, nevertheless, as Herbert Spencer—a man not inclined to overrate the importance of costume—observed, a man seldom feels so sure of himself and ready socially to take the initiative as when he is aware that he is correctly "turned out." That influential power, which architecture undoubtedly once also had, it has lost. Eclecticism has ruined it. For, if all styles can be employed, then no one style is correct, no style can give him who uses it the sense of being on the right road. Architecture has lost the power really and profoundly to influence—not merely to amuse—us, because we can have a house built in any style, yes, even in a mixture of styles, while though dress is decadent it still has this distinctive power of a living style, no one dare use anything but the current model. The man who will live in a "Jacobethan" or Italo-Victorian villa without being conscious of any offence would pay almost any fine rather than have to turn up in the City in tights and a top-hat or toga and trilby.

Are we then going to remain in this curious, unpleasant and historically rare condition of general indifference to architecture, or is architecture going again to recover its influence over us? For most of us it is perhaps too late. We have probably lost the power to be influenced profoundly by noble form and proportion. We have gazed too long not on "man's mortality" but upon men's muddles. The confusion of styles has rendered us incapable of responding to any one style. For so long the trumpet has given uncertain sounds that we can no longer get ourselves ready to respond in any distinct way. We can be amused by nearly everything and roused by nothing.

And yet, if there is not this public response—not fine, analytical criticism but that response of which Manet spoke when he said before a masterpiece he "stood moved"—then architecture's outlook is pretty hopeless. For all living arts are a constant reciprocation between the artist and his public, as the evolution of all man's inventiveness is due to a constant reciprocation between his hand and his brain. Unless architecture can get that response from the "using public," can give them this stimulating sense of heightened awareness, then the public simply won't continue to pay for it. It will become increasingly a matter of perfunctory decoration laid on by an "exterior decorator," until it excites so little interest that its cost will be completely cut and the money given to the real builder, the engineer to add to "internal conveniences."

But if we ourselves have been rendered insensible by the pell-mell of styles and the waves of revivals that have battered upon us, the young can still see the world with freshness of response. It is in the schools then we must look to find spirits still sufficiently undazed to respond profoundly to noble surroundings. Unfortunately most of our great schools do not wish to teach those still capable of original and creative reactions to give way to any such disturbing activity. "Those who can, do; those who can't, teach." That there is at least some truth in this bitter Shavian shaft is betrayed by the architecture of most of our great public schools. These ancient foundations have been dominated by their "classical side." Indeed, until our generation that side was so extensive that any other side, "modern" or "scientific," was practically "off-side." And that classic side certainly gave itself away in the buildings in which it housed itself. Its scholastic spirit, a spirit of pedantry and precedent, was naturally materialized in a crabbed late Gothic and at most, as addition, a little Queen-Annery to bear witness to the scholiasm of a Bentley. Even the schools which were not Gothic foundations insisted on confining themselves in Gothically-revived cells, as the hermit crab seeks for a twisted shell in which to ease itself.

"Ah, but that is all over now," say the topical public school masters. "We see that science is necessary. Boys will now have to be able to earn their livings when they



The "elegant factory" and its neighbour, the Memorial Hall, at Marlborough College.

leave, and not expect private means to keep them above the battle, or the school's name to find them, straight away, commissioned rank." I remain unassured. I know that science is no longer a complete outsider at a public school, but I remain uneasy because of the terms on which it has been admitted. Holt has an uncommonly fine Engineering Laboratory. In some of the smaller schools—a small one near Trowbridge is especially in my mind—the biological teaching is really thorough and enthusiastic. Of the greater schools Marlborough for long has been known not to play but really to work at science. That influence, with a Head's "translation," has naturally spread to Harrow. And lofty Eton is no longer ashamed to endow the study of "the beggarly elements." Oundle under Sanderson, all the world knows, became of all science public schools the one which had the widest outlook, but there, Sanderson himself was so distinctive a character that with his disappearance the reason for studying science has, some observers believe, undergone an unconscious but distinctive change. That is the real problem, the motive for which science is studied at schools. First of all science was only admitted by the back door and under protest. Naturally at that stage any old shed or abandoned classroom would do for "stinks." Now, as any visitor to most of our big public schools must notice, science is really beginning to show up on the landscape. Many of the laboratories are fine structures. Coming so late in the building lives of these ancient foundations, several of the science departments have undoubtedly benefited by avoiding that nineteenth-century "good" equipment which today would have been the worst enemy of the "far better" now available.

And yet—the danger lies in the fact that science has not been admitted as a second great wave of that New Learning which was the cause of the founding of so many of our greater public schools, as a further enlargement of Humanism. It is being given rooms in the ancient foundations, not because it inspires but because it pays. Its laboratories tend too much to be considered as part of the power-house plant, like the constant hot-water and central heating services. Science has itself all too easily fallen into this rôle. Its professors becoming more and more specialized are only anxious to teach their students "to know more and more of less and less."

If that continues then the admission of science into the schools is not going to enlarge growing minds and call for an architecture with which it may react with fruitful results on the receptive young. The division between facts and values, beauty and utility, a division with which architecture is all too painfully aware, is only going to be made worse. Art and culture become antiquarianism housed, of course, in "museum pieces," or in exasperatingly ingenious imitations. Science becomes nothing but the specialized pursuit of increased economic output and efficiency, housed, naturally, by engineers in what can't be called building but should rather be called "plant." Of this I do not think there can be any doubt. If science is simply to be in the schools as a new means for getting more efficaciously at the old ends, then I am sure the science laboratory of the public school—or anywhere else where science is so treated as a tolerated money-maker and profession-getter—can never have architectural significance.

Fortunately, however, Science itself is not stopping still. It, too, is having its revolution. Though scientists still specialize even more highly, Science itself is doing just the reverse and making vaster and vaster convergencies and generalizations. In short, Science is rapidly constructing a new, coherent and vastly comprehensive outlook. There can be no doubt it is about to issue in a new Humanism. And this new spirit, if history is any guide, must undoubtedly express itself in a new style. The discovery of the Old Learning, the discovery which created the Renaissance and gave rise to the New Learning, expressed itself naturally in revived classic forms. The Scientific Humanism of today will, with the architect's help, give rise to its appropriate architecture. This need not be nothing but gaunt engineering. It is an out-of-date view which thinks of the only house of science as being the laboratory. The laboratory is the place of the specialist, where recipes are worked out and puddings are got ready for their final proof. The Humanist requires, and will shape to his wants, something more humane—less of a kitchen and more of a sollar. The power of wide speculation is as important as the power of detailed verification. In the near future architecture must shape for schools (whether for adolescents or adults) rooms and meeting places where the mind may work and range freely, stimulated and expanded by its environment.

At the last Economic Conference at South Kensington it was architecturally and socially important to notice that besides the Conference Rooms there was also supplied another architectural-social device copied from Geneva. That was a large hall the sides of which were divided into deep embrasures into which discussing groups could retire and yet not be cut off (as a room would cut them off) from the general conversations going on in the body of the hall. This is only one small preliminary example of the way that architecture and thinking, the hand and the brain, must evolve together. It suggests how Science and all advancing thought in all schools for whatever ages, must, as they advance, call on the architect to devise new "structural foci," "patterns of contained space," where learning minds can be held together in creative association.

Throughout the history of man his architecture has been the outward and visible sign of his power of creative association. Rites and their successive theories have influenced and been influenced by the buildings in which they were pursued and evolved. Science, too, is a practice and a theory. As Science continues to grow and Psychology becomes increasingly incorporated as one of the exact sciences, we shall discover more about those subtle interactions between the proportions of our surroundings and our scale and frame of mind. Functionalism can only be a short, preliminary phase. Behind that simple problem of physical convenience, a problem the engineer can solve, is the real problem of the artist-architect—how to build so that each room is of those proportions (of which the study of Empathy is today engaged in exploration) that he who works in it is under a continual "stimulant of subconscious satisfaction." It is with such studies that science can help architecture so that in turn architecture may help true science.

It is obvious then that Science cannot but help to evolve its appropriate form of building, and also that if that building is planned with real invention and insight, it, in its turn, will stimulate, as it always has stimulated, that expansion of practice and speculation which today we call Science.

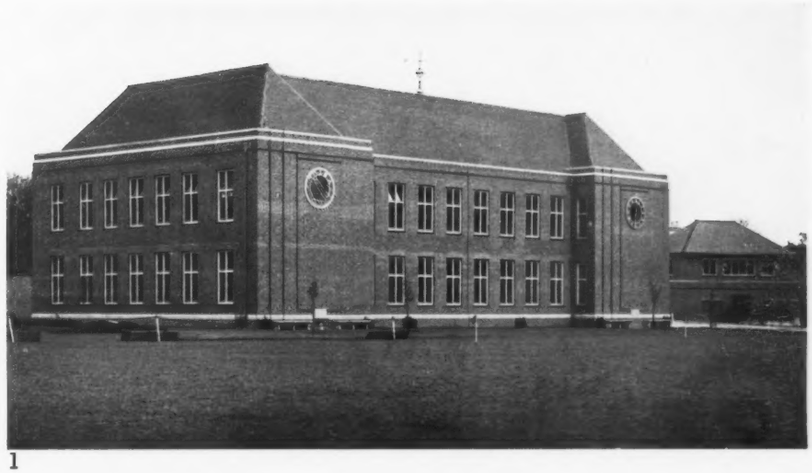
SCIENCE BUILDINGS

BEDFORD

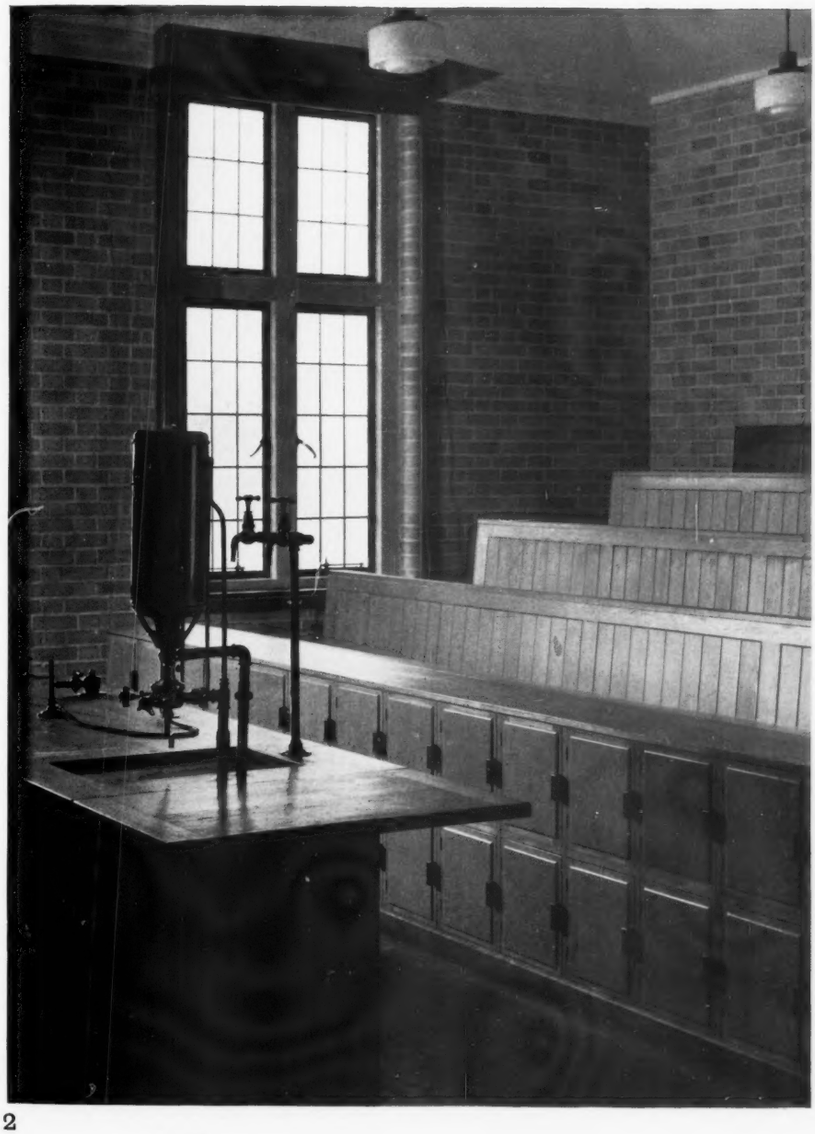
OSWALD P. MILNE, ARCHITECT

The large corrugated iron building, familiarly known as the "tin buildings" which has served Bedford School as laboratories and gymnasium for over half a century, has at last been demolished. To replace this, new buildings have been designed by Mr. Milne, an Old Boy of the school.

A Science Block has been placed near the Glebe Road entrance gates; this combines Physics and Chemistry laboratories, classrooms and a lecture theatre. It is built of local red bricks with stone dressings and is roofed with red hand-made tiles. The main front of the building faces the School field and towards the Burnaby Road gates. At one end of the building on the wall is a big clock, at the other is a sundial; both are carried out in burnished metal. The weather vane, placed centrally on the roof, represents a retort. Over the main entrance door, which is flanked by stone pilasters, is a carved wood panel with gold enrichments, upon which is the following extract from Ecclesiasticus: "There are yet hid greater things than these be, for we have seen but a few of His works." On the ground floor are placed the Physics laboratories and two classrooms. On the first floor are the Chemistry laboratories and a lecture theatre.



1



2

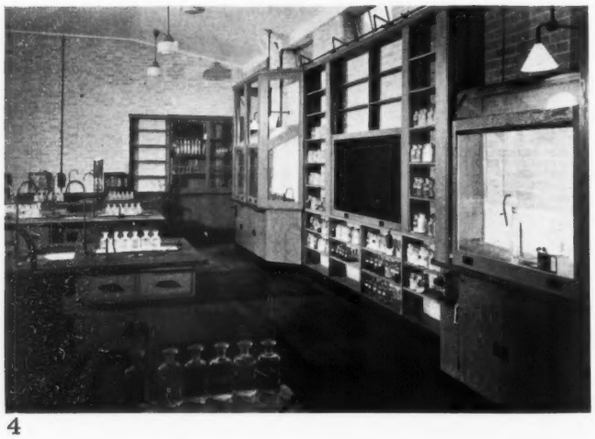
3

The whole of the internal walls are faced with cream sand-lime bricks; the doors are blue. The floors of the laboratories are in red jarrah wood, whilst those of the corridors and staircase are in Sienna terrazzo. The electric light fittings are simple and modern.

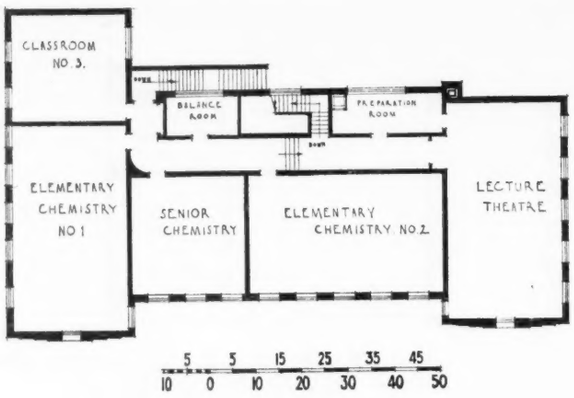
The illustrations on this page are:—1. The new Science Block from the playing fields. 2. One of the classrooms. The walls are creamy white bricks; the woodwork is stained silver grey. The handles, etc., are ebonized black. The floor is of red jarrah wood. 3. The entrance to the Science Block. The walls are creamy white, the woodwork of the doors, etc., stained blue. The floor is of terrazzo marble, and the central design represents the compass points.

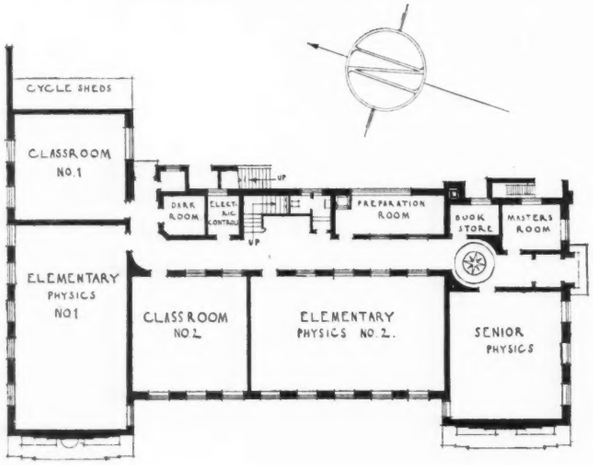
BEDFORD

4. One of the laboratories, showing fume cupboards, etc. The fittings are stained silver grey with black ebonized handles. 5. Plans of the ground- and first floors of the Science Block. A decorative map of the School and playing grounds is illustrated on page 248.



4





5

1

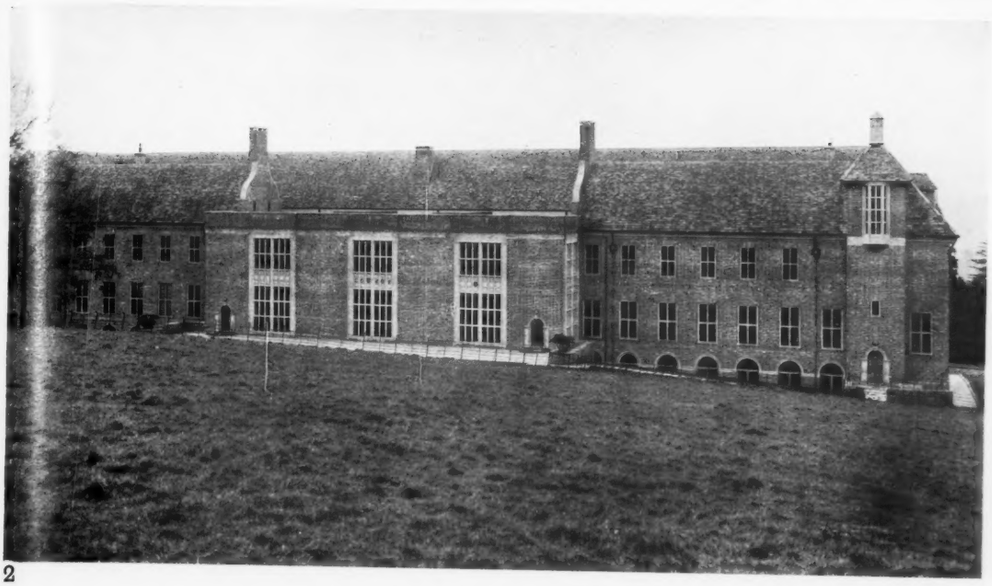
EXETER

E. VINCENT HARRIS AND S. K. GREENSLADE, ASSOCIATED ARCHITECTS.

The illustration above and those on page 227 are of the Washington Singer Laboratories, University of the West of England, Exeter. 1. Looking west along the south terrace. 2. From the north. 3. From the south-east. 4. A view of one of the laboratories. 5. The ground floor plan. The following is a key to the numbers on the plan.

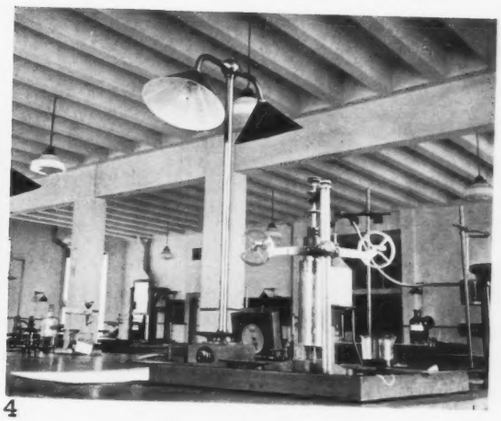
1. Apparatus Room. 2. Class Workroom. 3. Balance Room. 4. Advanced general electrical laboratory. 5. Advanced Optics. 6. Honours Laboratory. 7. Professors' Room. 8. Research. 9. Assistants. 10. Research. 11. Library. 12. Students' Writing Room. 13. Intermediate Laboratory. 14. Intermediate Optics Room. 15. Wireless Room. 16. Stores. 17 and 18. Spectators' Gallery.

BUILDINGS

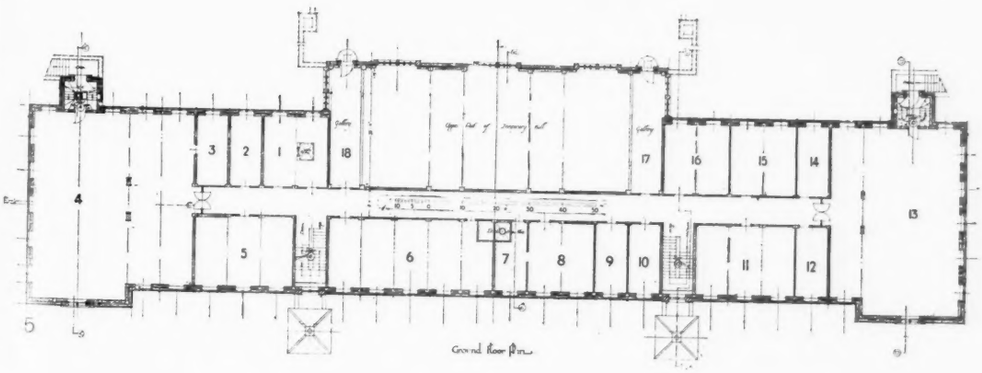


2

3



4



Ground floor plan.

FROM VICTORIAN HOUSE TO FLAT

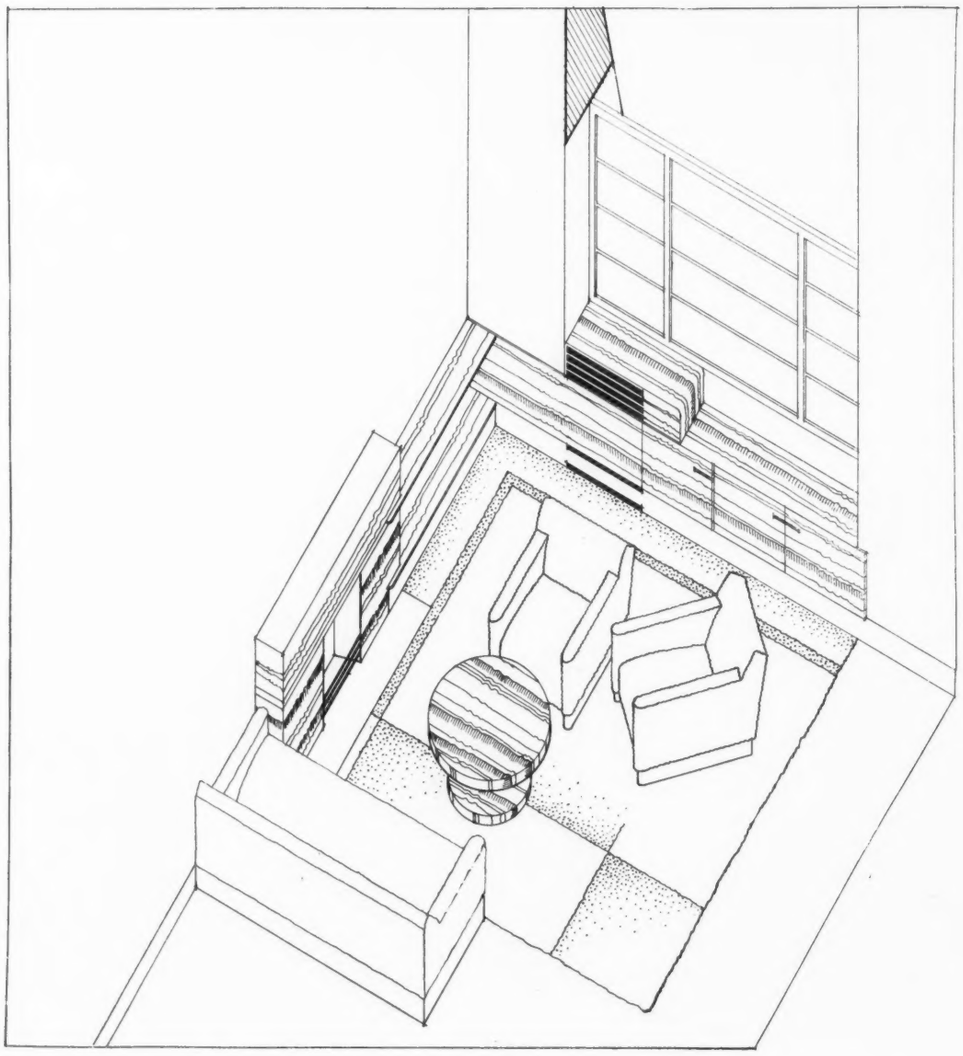
A CONVERSION BY CAMERON KIRBY

1. An isometric drawing of the fourth-floor living room in the flats at Cranley Court, No. 13, Cranley Gardens, South Kensington, London, showing under the new enlarged dormer window the radiator casings and cupboards combined, linked up to the new fireplace with shelves. All the woodwork is selected birch, slightly waxed. The metal work to the fireplace is chromium plated with a $\frac{1}{4}$" rough cast glass shelf over. 2. A typical flat entrance. The wood doors are glazed $\frac{1}{4}$" Georgian wired rough cast glass, with sand-blasted line and fitted with anodized aluminium and chromium plated tubular handles. The architrave is of polished aluminium, and the flat numbers of stamped metal. 3. The third-floor landing showing a similar door and surround; the chair is in bent plywood and chromium plated metal. 4. The basement dining room—this was originally the kitchen. The existing range was removed and the soffite brought down to the present level to form the fireplace. It was necessary to put in a stanchion to take the new walls over; this was cased in as shown and a cocktail cabinet built round it—see the isometric drawing 6.

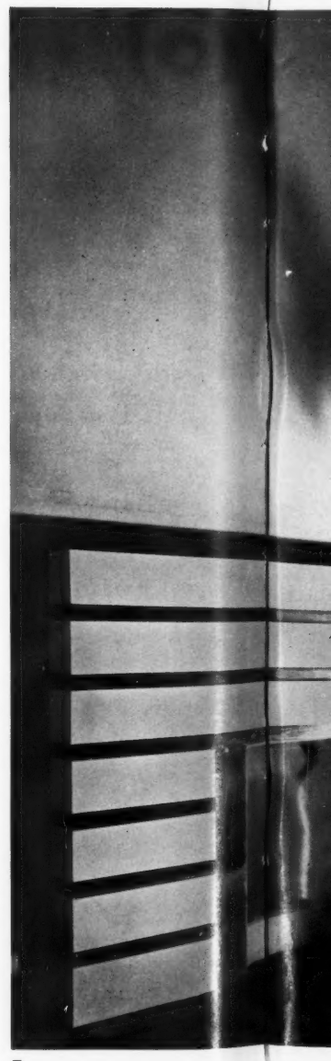
2

3

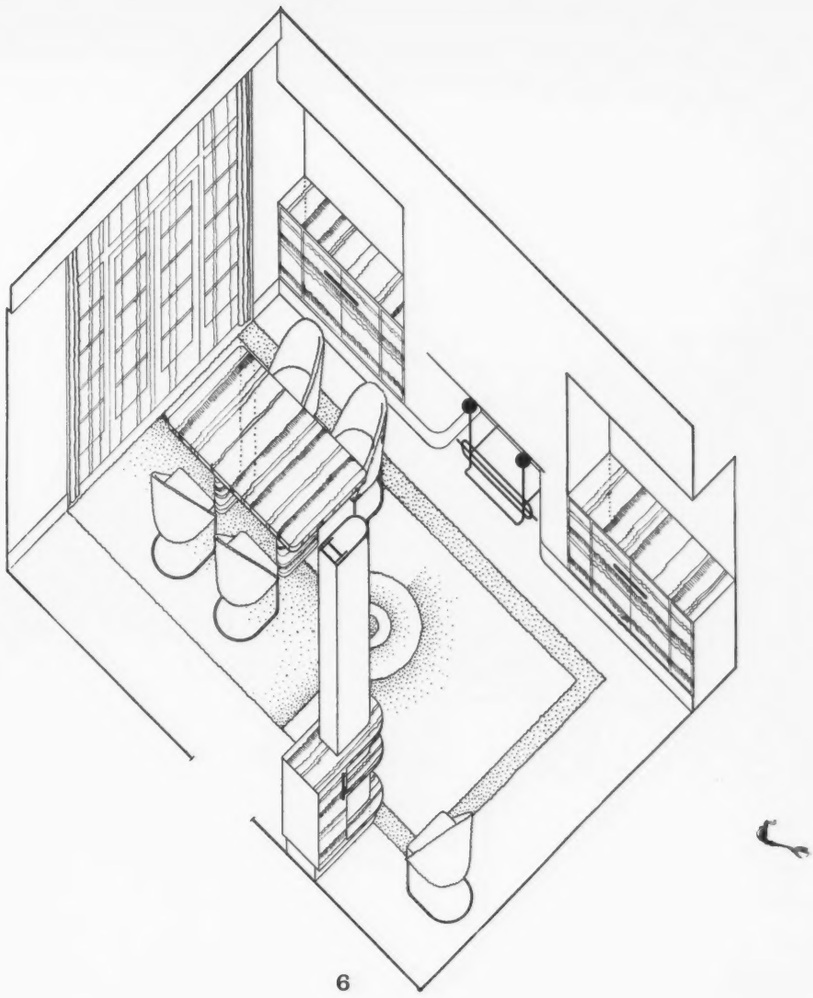
4



1

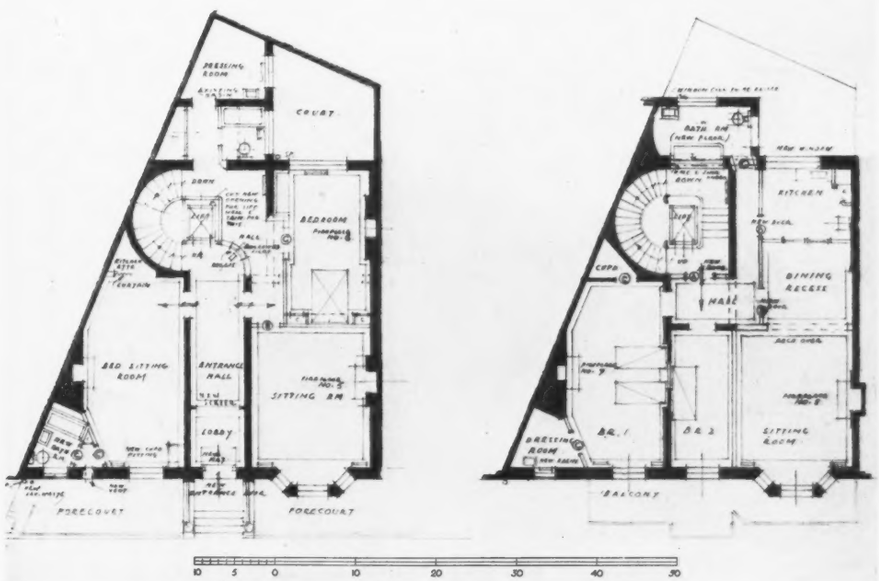


5



6

5. A typical fireplace treatment. Dark bands of chromium plated metal and the remainder applied woodwork painted to match the walls, with a $\frac{1}{4}$" rough cast glass shelf over. The sculpture group of birds in flight is by Maurice Lambert. 6. An isometric drawing of the basement dining room showing the new fireplace with stanchion casing, French windows and three built-in fitments. 7. Plans of the ground- and first-floor.



7

THE TIMBER

1

THE art of structural woodwork in church building has practically died out. Modern materials are speedier and more convenient. Wood is no longer the chief decorative feature in a building; and it is sad to reflect that the enthusiasm and inspiration that led to the vast production of fine woodwork of the Middle Ages has now gone. It is left for books and occasional sightseeing visits to churches and other mediæval buildings to remind us of what has been lost.

Only about a tenth part of the church fittings of pre-Reformation days now remain. In *English Church Woodwork** the authors have collected the best of them. For over twenty years Mr. Crossley has spent six weeks in each year studying, measuring up and photographing the church woodwork of the country. From over 10,000 photographs he has performed the difficult task of selecting 380 to insert in this book. As the result of his study he was impressed by two points: the superiority of the fifteenth century over all other periods, and the differences of type in construction and detail in the different parts of England—points which, he maintains, have not been understood by architects who have done restoration work, nor by commercial furnishing firms. Modern attempts to copy mediæval woodwork have produced "only dry bones, mechanical and dull, for the true spirit of Gothic art has not been breathed into them."

The illustrations reproduced here have been chosen from the part of the book on roofs. Although the roofs may not be so beautiful as some of the other work—some of the stall work, for instance—produced by these craftsmen, they excel because, besides being decorative, their design was governed by constructional needs. It is interesting to trace their development from the early flat-beam type—all varieties, of which were in use at the time of the Norman Conquest—and to see how the Gothic craftsmen solved the problem of turning the elementary arrangement of rough-hewn beams and posts into things of beauty; reaching a climax by the invention of the hammer-beam roof, of which the one at Needham Market (**3**) is such a fine example.

* *English Church Woodwork. A Study in Craftsmanship during the Mediæval Period. A.D. 1250–1550. By F. E. Howard and F. H. Crossley. Second Edition. London: B. T. Batsford, Ltd. Price 25s. net.*

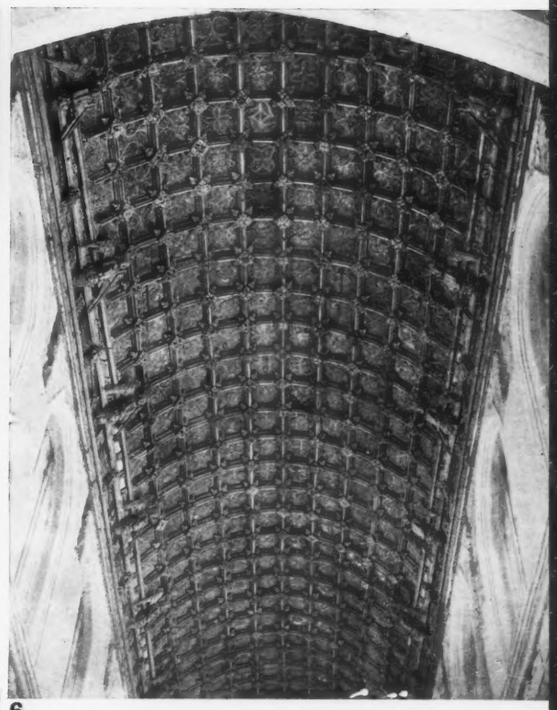
2

3

ROOFS OF THE MIDDLE AGES

4

5



6

Mr. Howard, who has written the text, describes with great efficiency the history and development of all the work to which the craftsman turned his skill. Some of the illustrations are really fine reproductions, and the working drawings which are included are adequate. In this the second edition of the book there are many extra illustrations, although the text of the first edition remains unaltered. Sixteen full-page collotypes have also been added.

ALAN HASTINGS

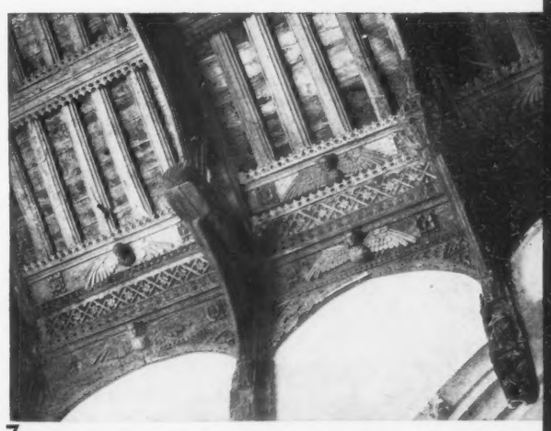
All types of the flat beam roof were probably being used at the time of the Norman Conquest. It was left to the Gothic craftsmen, to beautify the rough beams and posts, and, as the roof spaces became larger, to evolve the more complicated forms of construction which reached a climax in the invention of the hammer-beam.

The high pitched form of post and beam roof—such as the one at BARKING, SUFFOLK, 4 —was one of the earlier advances made. It is to be found in the Midland and Eastern districts, but is most common in the South-Eastern counties. In the later examples the beams are fitted with braces and wall posts, and they support tall king-posts treated as shafts with moulded capitals and bases which carry a collar purlin, the span of which is reduced by braces rising from the post. This type of roof was in use as early as the thirteenth century.

From the braced roof a further development was to make the brace in the shape of an arch. At SHEPTON MALLET, SOMERSET, 6, there is an excellent roof in which the local treatment of deep mouldings and traceried panels of different designs, found often in the flat roofs of the district, is applied to the curved surface with good results. The rafters have been boarded over and panelled out with little applied mouldings, the boarding offering excellent opportunities to the painter. In Somerset where the braces are often of curved outline, the boarded treatment was commonly adopted.

In the fifteenth century the brilliant idea was conceived of projecting the sole piece after the manner of a cantilever and hinging the arch from its extremity instead of from the wall-plate as at WHITCHURCH, DENBIGH, 2. The sagging of the cantilever was prevented, and the thrust brought down much lower by the addition of a bracket or a wall-post and brace—such a bracket as is shown in the illustration of a cornice at EARL STONHAM, SUFFOLK, 7. This—the invention of the hammer-beam—was originally introduced by the East Anglian carpenters, but it appears to have been developed independently in the East and in the West of England. It was a remedy to get over the difficulty of finding braces large enough to keep the posts and rafters of the couple-roof at the same rigid angle with one another. As timber of such width was not easy to obtain it was sometimes neccessary to make a horizontal joint and divide the brace into two parts. The jointing was greatly improved by introducing a beam projecting from the wall, into which the rafter, wall post and the two sections of the brace were framed. Then, as it was found that the upper and lower sections of the brace need not be of the same curve, the beam was allowed to project more and more, and the braces brought to its end, so that the curve of the arch was bent into a trefoiled outline. Thus was evolved the hammer-beam roof of the Norfolk type, illustrated by BLAKENEY, NORFOLK, 5.

The natural development from this, was the double hammer-beam roof where the lower brace supports a second hammer-beam, tenoned into the rafter, from which another brace springs to the collar. A magnificent effect resulted from this form of construction ; but the delights of the double tiers of hammer-beams sometimes obscured their real purpose. At WOOLPIT, SUFFOLK, 1 , for instance, advantage is not taken of the projection of the upper hammer-beam, which projects uselessly into the empty air, while the upper brace springs from the rafter—in fact, the upper hammer-beams are only introduced for effect. The culmination of this type of roof is to be seen at NEEDHAM MARKET, SUFFOLK, 3. The construction of the roof of the nave is derived from the single hammer-beam roofs of the district, and contains all the features of a complete church. Although in a single span, it is planned with nave and aisles, the posts which take the place of the nave piers being supported in mid-air upon the ends of great hammer-beams. Clerestory windows appear between the principals, and the central section is designed with an almost flat cambered beam roof. The structure is more noticeable for its clever conception than beauty.



7

1. A Double Hammer-beam Roof at Woolpit, Suffolk.
2. The Welsh type of Roof at Whitchurch, Denbigh.
3. The Roof of the Nave at Needham Market, Suffolk.
4. A Post and Beam Roof at Barking, Suffolk.
5. The Norfolk type of Hammer-beam Roof at Blakeney.
6. An Arch-braced Roof at Shepton Mallet, Somerset.
7. A detail of a cornice at Earl Stonham, Suffolk.

Book of the Month

A 'Full-Blooded Spirit'

By

LORD LEE OF FAREHAM

LAWRENCE WEAVER. A MEMOIR. By Clough Williams-Ellis. London : Geoffrey Bles. Price 6s. net.

Most biographies err on the side of length and bulk, but this cannot be said of Mr. Williams-Ellis's fine and penetrating study of Lawrence Weaver's life and work. Indeed, at first sight its brevity may seem almost disconcerting to Weaver's intimate friends, but that impression is quickly dispelled and replaced by a keen appreciation of the skill and judgment which the author has shown in compressing into so small a compass a so nearly complete and illuminating picture of this rare and arresting being who was one of the greatest " energizers " of our time.

Mr. Williams-Ellis's characteristically vivacious handling of his subject is entirely appropriate to Weaver's vivid personality and, judging by the only standard that matters, his little volume does succeed—to an extent which a more ponderous tome might fail to do—in resurrecting and revivifying the essential qualities of the virile, joyous and compelling figure who is still deeply mourned by a wide circle of devoted friends and followers.

His dominant characteristics could not have been more aptly summarized than in such swift phrases as " the man of parts and wiles who delighted in his power over men, yet never used it basely " ; or again, " a busy, buoyant figure . . . loaded with work and responsibility, often with anxieties, yet never afraid, never defeated, always debonair." That was the authentic Weaver, on his business side, but, as Mr. Williams-Ellis points out, this robust worldliness was not incompatible with an absorption in his religious Faith and its observances which made his office as Deacon of the " Irvingite " Church his chief enthusiasm and his first concern.

There can seldom have been a career more intriguing and paradoxical ; his heart and even his head ever reaching towards the stars and yet his feet so firmly planted upon the ground that his first ambition in life was to become a practising dentist. That he would have made a good one there can be no manner of doubt, and he would have drawn teeth with the same deftness and gusto that he displayed later in extracting benefactions from reluctant millionaires. But his path led in other directions, and Mr. Williams-Ellis has sketched with a sure hand Weaver's kaleidoscopic career as commercial traveller, great public servant, a trenchant writer of books, an eloquent controversialist and, in divers vital causes, the " rightest " of " right-hand men "—as the present writer can testify, with a full heart, after having been blessed with his co-operation and comradeship through many years of mutual endeavour. He was a hard master to those who worked under him, because in his relentless pursuit of duty and efficiency he spared no one, and least of all himself. But he infused such a sense of adventure, and even of fun, into the most grinding tasks that his young men followed him with blind devotion and were always ready to go " all out " and anywhere under his banner. To his seniors also the spirit in which his work was conceived and executed was an inspiration as well as an abiding comfort, and much for which they received the credit and the rewards, was in reality his doing and should have been recognized as such. This does not imply that Weaver was afflicted with any false modesty—and he certainly did not pretend to suffer fools gladly. On the contrary, he was fully conscious of his powers and there is truth as well as humour in the story of his retort, to one who charged him with being " superior " : " But, hang it all, I *am* ! "

He was a " happy-starred, full-blooded spirit " who " in the hot fit of life, a-tip-toe on the highest point of being " was snatched untimely from our midst, and of whom it may be said with desolating truth that we can hardly hope to look upon his like again. But his memory lives undimmed in the hearts of his friends, and to those who were not privileged to know him Mr. Williams-Ellis's tribute will be both a revelation and a stimulus.

Airscape

THE BEAUTY OF FLIGHT. By Dr. Manfred Curry. With a Preface by C. R. Fairey. London : John Miles. Price 15s. net.

Here are a hundred photographs, views of clouds and of what can be seen above the clouds—aeroplanes, mountains, skyscrapers—views of the land and water too, as they bare themselves to marauders of the sky. Airscape is a new beauty of the world divulged to the airman, icy and majestic, given him in an isolation that awes and exhilarates, a protean beauty of white clouds piled up into phantom peaks, of clouds which rehearse the spray forms, as in arrested motion, of furiously breaking seas, and of the seas themselves miles below, blinding quicksilver where they reflect the sun, or dark and polished with the foam on their windy surface flattened to white marblings. The incandescence of a floor of cloud dazzles beyond the camera's power, for there is nowhere a contrasting shadow by which to measure its light—from twelve thousand feet I have seen one stretching ahead to a horizon above the Caspian, while behind in complete clearness the fawn Persian desert lay revealed, and across it the thin thread of the road from Bagdad, which disappears at last into the purple mountains on the way to Samarkand. Estuaries too, Tyrrhenian bays, snow-mountains at sunrise, New York from the air at night on its island seeming no larger than Venice. Venice itself with the shipways leading to it surprisingly revealed like roads in the lagoon, all these I have seen in unfamiliar loveliness from the air. The beauties of flight are new, and they begin with the architectural nobility of the monoplane itself. Its track made visible by smoke, is the supreme calligraphy, " the way of an eagle in the air " ; its banks and loops proclaim that geometry which is man's Promethean theft from the apparent disorder of the world. The airman's hours of remoteness from terrene life, his independence and his intimacy with the clouds are translated in this book ; it infects you with the enlarging influence of the upper air, the renewed majesty of sea and mountain and of the earth restored by remoteness to the age when no man was visible upon its plains.

RAYMOND MORTIMER

LE CORBUSIER IN WILTSHIRE

This is an internal view of "A" House, Marlborough College, Wilts. "A" House is filled with the younger boys, that is to say, those aged fourteen and thereabout. It was built in the middle of the last century. Outside, it is a square building of simple and not unimpressive appearance, like an Italian town palace. The ground floor and basement rooms are used as classrooms and the first and second floors as dormitories. When he added, this year, a new wing to "A" House, Professor Newton conceived the idea of brightening the interior of the old building. The only daylight that percolates into the prison-like well shown in this illustration, comes from a skylight on the roof, away above the second floor. Formerly the walls were painted a dark green and the atmosphere of the building was well conveyed in Beverley Nichols's novel *Prelude*. "It was about 9 o'clock in the evening of Paul's fifth day at school, and he was sitting on his playbox in the stone basement, in an atmosphere of decaying apples and spilt Quaker Oats, trying to forget the noise of the classrooms up above. . . . He looked round the gloomy basement where he was sitting. A flickering gas-jet shed an uncertain light on the situation, and faintly lit up Paul's round and rather childish face. All round the wall were ranged playboxes—fat, thin, short, long, black, white—every description of playbox. Paul opened his tenderly—the thing he had hated was about the one thing, besides his desk, which he could call his own." The gloom has been mitigated by Professor Newton painting the ceiling and part of the walls in shades of yellow of varying intensity, while the iron columns are painted vermilion. "A" House is now positively sunny and the stone stairs, iron railings, incessant shrieks and familiar school scents of bat-oil and old biscuits, become less offensive. Not even Paul of Mr. Nichols's novel would have so much cause to write home from one of the screaming classrooms of "A" House as he did. "This house is toô hideous—I never thought such a horrible place could exist. I suppose term will be over some time—oh I do wish I could get measles or something. Do come quickly—ninety-three more days.

Ever your very loving,
Paul X X."

Besides, Paul could not have heard of le Corbusier.

Garden-Cities Still Nearer Heaven

"CITÉS-JARDINS 1932." "LE ROMAN DES CITÉS-JARDINS." By Georges Benoit-Lévy. Published by the author (from whom these books are alone obtainable) at L'Etoile, Pessicart, Nice (A.M.), France.

CITÉS-JARDINS 1932 is confined to England. Its author, a *pure des pures* among garden civicizers, insists that, the whole world over, there are only two "true" embodiments of those idyllic theories which have been indirectly responsible for our Peacehavens. Both are to be found in once "leafy" Herts. But in proportion as low-rated Hertfordshire grows less and less leafy it waxes more and more lyric. For, if we may believe the quotation from Magaglyo which heads the first chapter, electric gramophones and jazz-selective loud-speakers caress the ear softly as that poet's name, when borne on the pseudo-rural air of Letchworth and Welwyn :

Dans les cités-jardins,
Les soirs et les matins
*Sont remplis de voix douces . . .**

M. Benoit-Lévy says the first of these ("*une ville avec une âme*") has produced that ideal type of outer-suburban manhood, "*le citéjardiniste*" (a term he is not disposed to use lightly); whereas the second—in which Parisian *banlieusards* will be staggered to learn "the telephone works at all hours of the day and night"—has so far failed to. And why? some of us may be inclined to cavil, feeling that Welwyn is well worth a Letch. The reason is sufficiently specific. Letchworth, though perhaps not wholly "impeccable" architecturally, has only one blot on its civic scutcheon : an abbatoir for flesh-feeders. Welwyn, "red-tiled Welwyn," where every prospect pleases—"*la plupart de ses habitations sont signées Kenyon et de Soissons, ce qui est tout dire*"—beerily flaunts the sort of bar which is all the more sinister for being "fully licensed"; besides offering week-end fox-harrying with a local pack of hounds as an inducement to colonists. A garden is very near heaven, and a garden-city nearer still; but even that sweetest of all roses, a garden-city one, has lurking thorns. Or as this warm-hearted enthusiast (to whom these human vilenesses are more saddening than they probably would have been to Bishop Heber) might have put it : "*il-y-a des choses que même les bords fleuris d'une cité-jardin, même les chansons de sa Madrigal Society, n'excusent pas.*" That "*merveille des merveilles,*" the Shredded-Wheat Factory, in itself a concrete Song of Songs, cannot quite enable him to forget it. (Do French prototypes of this "modern cathedral" like that starkly masculine group of grain-silos at Marseilles, which is innocent of titivation by Beaux-Arts *architectaillons*, rouse him to equally poetic superlatives?) So he moves on, singing to Ebenezer Howard praises as he goes, to the austerer social-reformist environment of the soap and cocoa Utopias.

Revisiting Port Sunlight, where the tacked-on half-timbering seems to be standing up much better than in more recent Tudor Villages, the Lady Lever Art Gallery commands his eager admiration, but still more "*une nouveauté : on a reconstitué la maison natale de Shakespeare.*" And with a lack of cynicism rare in a Frenchman he rejoices to find that since he saw it last the "marvellous" church has been "*entourée d'un cimetière.*" A striking photographic still-life shows the truly Unilever dimensions of the cauliflowers and onions raised for Sunlight harvest-homes. Thanks to its "*Caisse d'Esthétique*" ("Amenities Fund" in our drabber idiom), that "*perle de rosée au seuil de la ville enfiévrée,*" emboscaged Bournville, can now boast of being "*parée des principales vertues physiques des cités-jardins.*" The extensive new *citéjardiniste* parkways and municipal housing-estates laid out by Birmingham (the "feverish town" presumably referred to), are completely ignored, but how the only parvenu among English shires will preen itself on being called "*ce Grand Seigneur qu'est le Conseil de Comté de Londres!*" Gentle is as gentle does. M. Benoit-Lévy must be happily ignorant of this *bourgeois-gentilhomme's* scurvily vandalistic record in regard to Waterloo Bridge.

The illustrations are exclusively taken from the familiar domestic architecture of "let's go on pretending we are just quaint rustic cottage-folk, or peruked Eighteenth-Century aristocrats." Conspicuous among them are "*des silhouettes agréablement esquissées par leurs architectes*" of Neo-Elizabethan and Neo-Georgian residences at Moor Park, "*conçues suivant les idées directrices des concours annuels du Daily Mail.*" Here by a palpable printer's error the comment "*ce qui est tout dire*" has been omitted. Metrolanders will have to be content with the assurance that "*toutes font honneur à l'architecture anglaise.*" Opposite page 17 a magnificent vindication of the supreme beauty of our fast-vanishing English elms comes as a welcome relief from so much stylistic virtuosity. But between their branches peep slightly self-conscious dormers. Can they be those of Mr. Barry Parker's villa, which

> *semblable à un caméléon offre aux amis de la tradition son ancienne façade empreinte du charme de la vieille ferme anglaise, et aux fervents de l'art moderne la nudité de sa nouvelle tourelle?*

Has M. Benoit-Lévy never wiped his *couleur-de-rose* monocle and asked himself why his two "pure" exemplars have remained unique; or how it is that Northern and Central European countries, where ambitious experiments of this kind are much easier to carry out, have consistently refused to emulate them? Mr. Thomas Sharp's "Town and Countryside" supplies the answer. The garden-city as understood by the creators of Letchworth and Welwyn—which Siegfried Giedion has pointed out soon proved far too idealistic a plan-type to be capable of any rational development—was a predominantly sentimental conception founded on false premises. A decade of their naive acceptance at face value by businesslike builders and estate-agents has made the Home Counties one vast ravelled suburb, arterially spoked with "speculative scarlet" ribbon, where shoddy vies with sham. Planning has ceased to be simply an attempt to save the cities from themselves, and comfort their citizens with gardens. It aims at saving the country *for the country* by arresting any further outward growth of hydrocephalous towns along those monstrous tentacular tape-worms which "garden-city ideas" have engendered. M. Benoit-Lévy has a charmingly loyal affection for "that's England—that was!" Can he not bring himself to appreciate that the England now breaking free from unworkable romanticism is at least braver and more purposeful than was that of our lingering "escapist" yesterday?

Le Roman des Cités-Jardins is a novel in which a *citéjardiniste's* fondest dreams all come civicly, horticulturally and sociologically true. Fortunately for humanity there are other bournes than Bournville.

BAIRD DENNISON

* *Note.*—The American version, we believe, runs :—

I wanna go
Where my bo,
Ma-gag-ly-o,
Heard the garden-city bums
Sing 'midst garden-city trees :
An' leaded windows in Thrums
Ope to simple-lifer melodies.
Say it with gimcrack gables,
Say it with old-world flowers!
Tell me those crazy-pavement fables
In the dear art home-craft bowers.

BOOKS RECEIVED

STEELWORK IN BUILDINGS. By Donovan H. Lee. E. & F. N. Spon, Ltd. 4/6.

BRITISH MUSEUM QUARTERLY. By the Trustees. Oxford University Press. 2/6.

AIRMAN'S WORLD. By Peter Supf. George Routledge & Sons, Ltd. 10/6.

COLOUR SCHEMES FOR THE MODERN HOME. By Derek Patmore. Studio Publications. 10/6.

THE CHINA ARCHITECTS & BUILDERS COMPENDIUM. Edited by J. T. W. Brooke and R. W. Davis. North China Daily News and Herald, Ltd. Shanghai. 10/-

MODERN DRAWINGS. By Campbell Dodgson. Studio Publications. 30/-.

LOMBARDIC ARCHITECTURE. Its Origin, Development and Derivatives. By G. T. Rivoira, translated by G. McN. Rushforth. Re-edited, and with additional notes. 2 Vols. Oxford University Press. 105/-.

BRITISH BRIDGES. Organising Committee of the Public Works, Roads and Transport Congress. 10/6.

A Free Commentary

By Junius

One excellent reason among many others for extended foreign travel is that it puts one in a mood to count one's English blessings. It was in Florence of all places that I picked up a belated copy of *The Times* more than ordinarily full of my countrymen's moans about the Torment of Noise. I say of all places because my friend and I had instituted an informal noise competition. England, France, Switzerland and Italy competing. And Italy had proved an easy winner and in Italy Florence had simply *romped* home.

* * *

Milan indeed had put up a pretty stout show, Rome, of whom legend reported that something (but not much) was being done about this noise business, kept its end more than well up. To high-throned Perugia we had felt bound to award a special consolation prize for good work put in by the University students on a double hairpin bend climb under its principal hotel, especially in the small hours of the morning. M. Chiappe's Paris had seemed by comparison a dream of peace, London a mere deserted village. The *Sinfonia Moderna Diabolica* of Florence—bleat, yell, squeal, squawk, screech, honk, rattle, blare, blast, roar (*fortissimo, sostenuto, con brio*), simply taxes the wit and imagination of man to describe. And what a treasure house of dramatic historical memories, of glorious works of art, of noble craftsmanship, of natural beauty to be thus turned into a Hell. If Dante were alive today he would surely make an eleventh circle to his Inferno for the automobilists and motorcyclists of his native place.

* * *

If the Last Trump were to sound one of these nights in the lovely ravished city, the hardy Florentines would merely turn in their half-sleep—they obviously cannot get any other kind—and murmur, "New Horn evidently on the market. Must get one tomorrow."

* * *

I do not deduce from this shattering and embittering experience—for there was nothing for it but headlong flight after a few torturing days and nights—that all is well with us, but rather that this is what we may come to if we do not maintain a constant watchfulness, cock a continual apprehensive ear, and positively discourage young gentlemen who, on the authority of a candid manufacturer, won't consider a sports car unless it makes a good resounding roar.

* * *

I have always supposed—correct me if I am wrong—that the English invented corrugated iron. It is indeed a good, cheap, sound, practical material consonant with their genius. It is sad, however, to find it in increasing use as a substitute for the pine-slatted roofs in Swiss alpine villages. There seems no substance that so wholeheartedly refuses to be at peace with nature. It is quite obvious that Swiss, and other, peasants grinding a hard livelihood out of a difficult land cannot be expected to worry overmuch about the æsthetic susceptibilities of sensitive and gifted tourists. As improved transport, funiculars, and rack-and-pinion railways bring alien materials into hitherto inaccessible and unsophisticated places and make such materials available at a favourable price, so surely will traditional building be continuously and increasingly modified.

* * *

But it might be worth an effort to make the new materials a little more sympathetic. It isn't, I should imagine, beyond the wits of English chemists, co-operating with English ironmasters, to mitigate the stark over-emphasis of corrugated iron. Perhaps it wouldn't sell as well if it were not so nice and slick and bright. . . . Horrible thought: this may very well be true.

* * *

Of course, I know what our ruthless young moderns, A, B and C, will say: Dear doddering Ass, poor foot-in-grave Traditionalist, abandon pray this unwholesome, antediluvian and futile yearning for the picturesque, the laborious and the permanent. You can't tie us to quarried stone, to brick laid on tedious brick, to laboriously hewn and fashioned wood. Give us standard rods and standard cement and standard laminæ of metal, wood or pulp; give us slide-rule and squared paper and we'll build you rational hygienic calculated machines to live or work in which will last as long as it is good for such things to last.

* * *

Oh, yes, I know. And I am afraid that, allowing for exaggerations, they're in substance right. And they'll make occasionally, the best of them, for all their ruthless functionalism and pride in bastardy, things of beauty. The quest for the Grail will not die. But will they make anything so friendly and inevitable so intimately of a piece with the lovely earth as Orvieto or Assisi or Morcote, or the little chalet-groups of countless Swiss mountain villages—or Chipping Campden for that matter?

* * *

A curiously backward race those Continental advertisers. Not yet have they discovered the universal formula so long ago revealed to British Business Psychologists of the Lovely Flapper holding up or using the product and baring her milk-white teeth in an all-embracing smirk. Is it they who are stupid or we? I have my view about this.

* * *

Which inconsequently reminds me that no winter sportsman or mountaineer of my acquaintance ever gave me any idea of the comeliness of the young maids and matrons of the Swiss Republic. Geneva indeed was so full of beauties that my first thought was that they had been imported for the consolation of jaded Elder Statesmen in conference. Investigation did not support this cynical suggestion. I began to understand the attitude of the impassioned Chauve-Souris singer who missed his Swiss miss—an attitude to which I had hitherto held no clue.

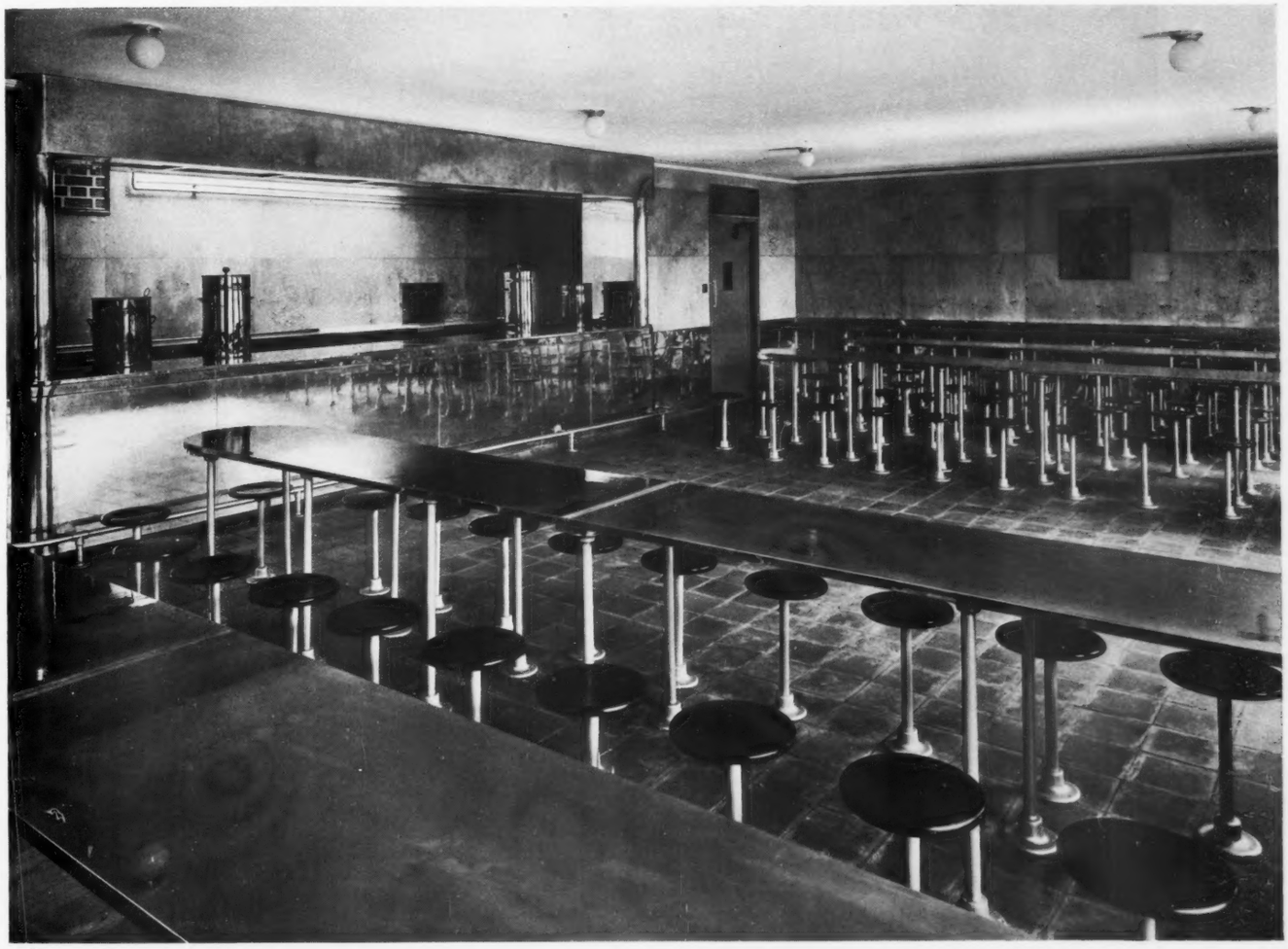
* * *

Technical Note on Refuse Disposal. At Leukebad I found a system of rubbish disposal which I had, of course, seen worked in England, but through lack of adequate technical equipment rather less effectively. You need a bridge and a stream. You bring your debris big and little down by goat cart to the bridge and heave it over rail of same. If the wind is slight much of the lighter material will fall into the bed of the torrent and remain there. The stream running low in summer, the more solid material piles up quietly to await the winter rains or the melting snows of spring. The two dead cats, the large piece of rotted sheet iron, the straw, the cardboard boxes, the rejected tins and food cartons will then be hurried down by the impetuous torrent to the sea, or to some point of disadvantage nearer the sea. A simple leisurely, economical system.

* * *

Mr. Eric Gill shows at the French Gallery, Berkeley Square, besides his exquisitely sensitive drawings and graciously cut stone pieces—a perfunctory reference this!—a "novelty" which will please the curious. The superb craftsmanship of Mr. Gill's cutting of his wood blocks is shown not merely in the beauty and freedom of the printing line, but in the precision and quality of the "gutters" and "counters." These enriched with white gesso give a fine brilliance to the relief line. A number of blocks so treated and mounted on blackwood bases are for sale at prices which put them within reach of the slenderest purse—as the saying is.

RESTAURANTS



THE ARCHITECTURAL REVIEW
DECORATION AND CRAFTSMANSHIP
SUPPLEMENT *December 1933*

The above illustration shows the Canteen section of a Pithead Bath erected by the Miners' Welfare Committee at Parsonage Colliery, Lancashire. Birch plywood was used for the walls, left in its natural colour and button polished. The ceiling has an ivory tint and the lamp fittings are chromium plated. The doors are finished a beige tint and the floor is of variegated Quarry tiles. The steel legs of tables and stools are painted a bright lemon yellow. The table tops, dadoes, counter front and surround are of plywood faced with polished aluminium.

Architects: **J. H. Forshaw and C. G. Kemp.** ***Craftsmen:*** **Venesta.**

2 3

OLD LIGHTS AND NEW

LONDON RESTAURANTS. Illustration 2 shows Reggiori's Restaurant at King's Cross, London, with its elaborate stained glass, glazed tiles, red plush, brasswork and mahogany in the grand restaurant manner of a former era. The ingenious electro-gasolier at Reggiori's makes an amusing comparison with the simple ceiling lights by Raymond McGrath in Fischer's Restaurant, Bond Street, London, 3. So do tables, chairs and walls, for that matter.

The Equipment of Restaurants

By MICHAEL DUGDALE

THE best possible kitchen makes possible the production of the best possible food—an elementary truism, but one which perhaps provides a starting point for investigation. There are many other considerations of importance no doubt, but none of greater than this. The expert chef must be the first to lay down the rules for the planning and equipment of a restaurant, and it is to him that the theorist must first go. After that come the considerations of service, of provision of storage, of cleaning, and finally of the accommodation of diners.

Nor does experience in this respect give the lie to theory. In the perfectly equipped kitchen there may certainly be cooked the perfect dinner; it may also, however, be cooked with no diminution of success in a kitchen with no up-to-date equipment whatever, and in space apparently planned in the first place for some totally different purpose. There are restaurants where the dinner is beyond criticism and where the service is no worse than that of their neighbours, whose kitchens have not one of the improvements of modern engineering, and whose accommodation is so little planned that the maximum number of the staff must cross the paths of those engaged on other duties.

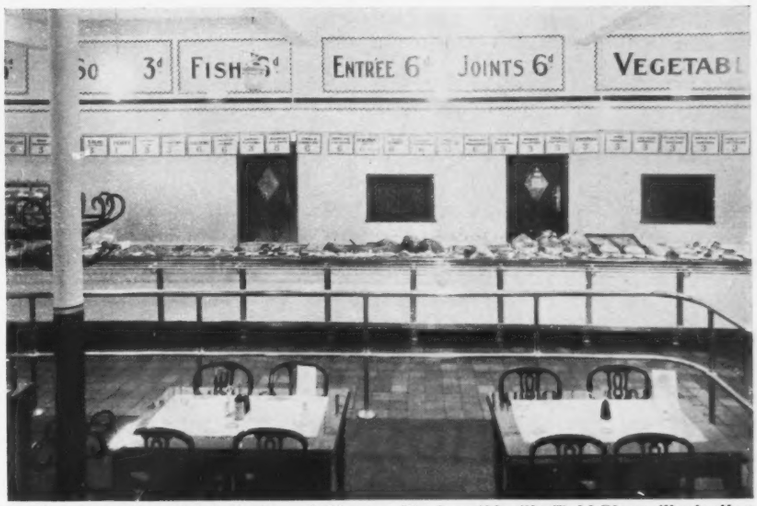
This state of affairs may be found in large restaurants serving from seven to eight hundred meals a day. These restaurants, working under conditions known and liked by the chefs and staff who use them, are able to cope with their regular business without the crudity of their equipment making a change necessary. Though certain kitchens of limited size have installed modern apparatus and made use of skilled planning, it is in the very large establishments that these things are absolutely necessary, and that they can best be studied. It is in these kitchens that one can see the ordered and harmonious working of the various processes—complication planned into simplicity.

Kitchen Circulation and Equipment

The elements necessary are these: an entry for the staff, another for raw materials, space for the processes of preparation, an egress for refuse, another for the finished product, and finally systems for the control of the raw material that comes in and the cooked food that goes out. All these must function along fixed routes planned not to interfere with one another, nor with the subsidiary circulation of the cleaning and storing of crockery and glass.

These elements have each their appropriate apparatus. In connection with the entry of raw material and food storage department there are the refrigerators, and in modern restaurants these occupy very ample space indeed. There are large refrigerators for meat and for fish, and smaller cabinets for hors d'œuvres, for oysters and various prepared foods. In addition there are cabinets for champagne and such wines

4. The Quick Lunch Bar at Messrs. Woolworth's Birmingham Store, showing the toothed arrangement to accommodate the maximum number of stools. The bar covering is of black and white opaque glass. Mosaic tiling is used for the floor and white-glazed tiling for the walls and stanchions. Designers: F. W. WOOLWORTH & COMPANY.



5. A corner of the Cafeteria Bar at Messrs. Woolworth's Sheffield Store, illustrating self-service arrangements. The Bar is composed of units, with white vitreous enamel and polished Monel metal clothing. Brown quarry tiling is used for the floor of the bar and white glazed tiling for the walls. Designers: F. W. WOOLWORTH & COMPANY.

as need to be served cold. In many restaurants beer is cooled in a large plant in the basement and pumped up to the service through pipes, but in these cases extra cooling is necessary on the service floor so that beer which has stood in the pipes, may be as cool as that which comes after it directly from the refrigerator.

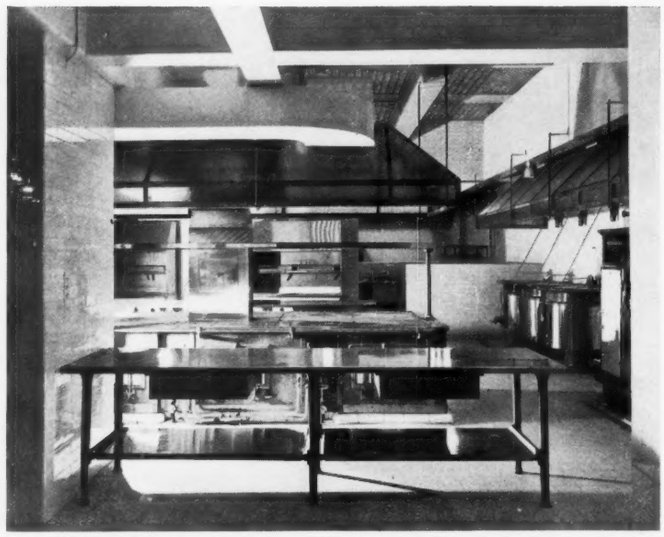
The amount of raw material stored by restaurants varies, of course, with the available space. Perhaps the most striking variation among restaurants of comparable size lies in the wine cellar. The older hotels maintain a very large cellar indeed with a stock calculated to last many years. The cellars of the Berkeley Hotel, for instance, run far under Piccadilly, whereas the Dorchester Hotel attempts to keep only a large enough stock to ensure that on no occasion shall there be a shortage, filling up its stock from outside as it is needed. This cellar is on the same floor as the kitchen and not far from it. Its temperature, therefore, is variable, a condition unsuitable for the prolonged storage of wine.

The preparation of the raw food for cooking takes place probably in a department in close connection with the storage and refrigeration, after which it passes into the kitchen.

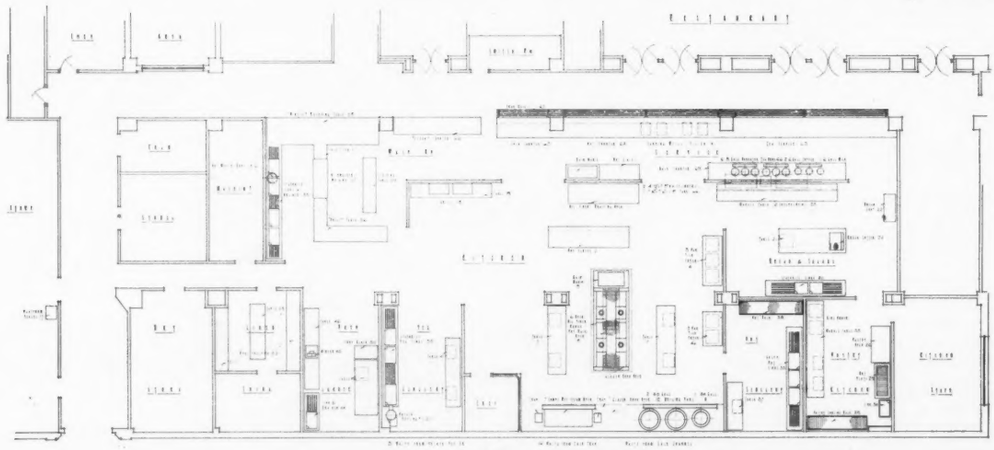
The equipment of the kitchen itself does not vary greatly except in the source of heat, and it is upon this point that controversy rages. There are four alternatives: coal, steam, gas and electricity, and to determine upon their merits in the face of expert opinion so various and so strongly expressed is exceedingly difficult. It is only possible to present the rival arguments. At the beginning of this article reference, perhaps faintly patronizing, was made to a large quantity of restaurants with first class cookery as a feature where the most modern equipment was absent. It was perhaps made to appear that these places rubbed along as best they might still wedded to the tradition of the dark ages, benighted, and yet blunderingly able to produce food in an eatable condition. If this impression was conveyed to the reader, it will be hotly resented by a not negligible school of thought among chefs. The opinion most widely expressed among such is that first rate cooking can only be done upon a coal range. They set aside all the methods whereby the heat is conveyed through pipe or cable, with all the advantages in cleanliness, economy and ease of control, and insist that it shall be carried in, however messily, in a sack. They claim that a coal range, when fully stoked up, has a steady cooking heat that varies predictably over the surface, so that full control may be exercised without recourse to taps or switches; that the heat is more intense, so that the rush at meal times can better be dealt with; and finally, they cryptically contend, the heat is "sweeter." This may be prejudice. It probably is. I give it because the opinion is widespread and expressed by those who should know. The opposite case may be less oracularly stated, and is indeed very obvious. "Layed on" heat of whatever kind is clean, is labour-saving and is economical. The economy may be gauged by visiting, even during the idle hours between meals when the ranges are not fully stoked, a large restaurant where coal is used. The heat that escapes into the room, even from these half-dormant fires, is almost unendurable. Large sums of money are daily spent in making uncomfortable the conditions of work, that with better contrivance should be providing heat for the more legitimate purpose of preparing meals.

From the point of view of economy of heat, electricity has been found an excellent medium. In certain kitchens where

[Continued on p. 243]



6. A kitchen at Shell-Mex House, Strand, London. The walls are of glazed bricks and the floor laid with non-slip tiles. Behind the stainless metal table, in the foreground, is the oil-fired cooking apparatus. Architects: Messrs. JOSEPH.



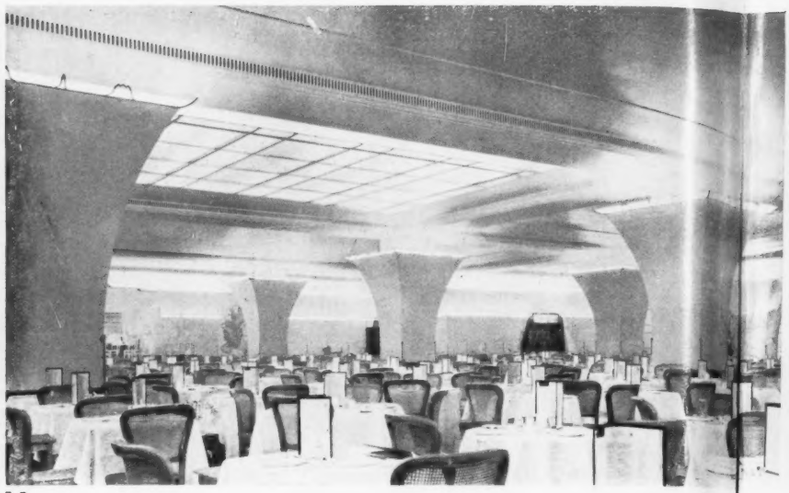
7. Plan of the kitchen at Shell-Mex House, London.

8 and 9. The cocktail bar at Quaglino's Restaurant, Bury Street, London. The general colour scheme is black and yellow. The ceiling is black, with large diffused lights made of circular pieces of sand-blasted glass. The carpet is very dark blue, while the panels are mirror. The tables are ebonized black with circular tops. The stools have ebonized circular black bases and are covered in washable yellow cloth. The column from floor to ceiling on the extreme left of illustration 8 is black. *Designers* and *Craftsmen:* Fortnum and Mason.

8

9

10



11

14

The illustrations on these two pages are all taken from Maison Lyons, Marble Arch, London. 10 shows some of the steel furniture in the Park Café on the ground floor. The chair seats have green bent-wood frames and woven canework. The table tops are of primrose yellow glass. The mosaic floor is in cream, grey, brown and terra-cotta.

Craftsmen for the furniture, Cox and Company ; the floor, Carter and Company.

11 and 14. The Quebec Café on the lower ground floor. The design is dependent on the lighting, which consists of two continuous lighting troughs in the walls, the lower trough containing a smoke extract. Similar troughs crown the piers, and a specially designed laylight illuminates the dance floor. The marble dado and door surrounds are of vert antiquo, grande melange. The dado is surmounted by panels of yellow glass framed by cover plates of tungum alloy. The three projecting tiers of wall facing are in plaster finished in egg shell synthetic resin paint, coloured bronze pink, and continued over the ceiling surface.

12

13

Craftsmen for the decorations, Hampton and Sons; lighting troughs, The General Electric Company; the lamps, Maple and Company. The marblework is by Messrs. J. Lyons and Company and was supplied by Messrs. John Stubbs and Sons.

12. The Park Café on the ground floor. The ceiling treatment houses specially designed projectors and concealed trunking for ventilation. The hard, white light of the projectors is counteracted by the vapour tube, which softens the intensity of these projectors, in order to show the goods to their best advantage.

Craftsmen for the plasterwork, F. W. Clifford and Sons; electric ceiling projectors and wall fittings, The General Electric Company, and the lighting tubing by The Claude General Neon Light Company.

13. The Wine and Tobacco Counter on the ground floor. The fittings are of Australian walnut, with cappings and other details of stainless steel in a satin finish. The panelling of the counter front is in wood inlay, the joints of which are outlined by an $\frac{1}{8}$ in. strip of stainless steel.

Craftsmen, George Parnall.

The architect for Maison Lyons was F. J. Wills, and the architect designer for the public rooms was Oliver P. Bernard.

15

16

17

Illustrations 15, 16 and 17 are of the Buttery at the Berkeley Hotel, Piccadilly, London. 15. The Buttery is approached down a short flight of steps through a series of splayed flat arches in polished sycamore. The first impression on entering is of the long curved counter with its black glass top and row of high metal stools. The floor is close carpeted in brown saxony, inset with decorative circular panels. 16. A view across the counter from the serving side shows the wide recess round which runs a long low banquette covered in a brilliant red tartan, at which are set tables in black glass and fluted sycamore. The corner is indirectly lit from a coved cornice over a peach mirror frieze. 17. The large silver mirror in a single piece, flanked by white silk curtains, forms the main feature of the end wall, serving to enhance the feeling of space and openness in the Buttery.

Architects : Stanley Hall *and* Easton and Robertson.

Craftsmen : For the fixed joinery, D. Burkle and Son ; tables and chairs, B. Cohen and Sons; stools, Pel; carpet by Edwards and Company with decorative panels by Marion Dorn ; light fittings, F. H. Pride.

18. A cooker control unit to British Standard Specification.

all cooking is electric the ordinary apparatus of hood and ventilating duct over each cooking unit is dispensed with altogether except over the fish fire where great heat and fumes are inevitable. All available heat is directed to the purpose in hand and the minimum is allowed to escape into the kitchen. This cannot be so completely achieved with gas heated ranges, though for certain purposes gas is more suitable. The Dorchester Hotel has experimented with both methods and now uses electricity for all purposes of roasting, baking and steaming, but has installed gas for range cooking, since it has found the occasional use of open flame an essential. In this kitchen there is, as usual, a ventilating hood over each unit.

The necessary cooking units are the ranges with a *bain-marie*, for keeping hot the cooked food, attached or in the neighbourhood, ovens for roasting and for the bakery, fish fires, grills and steaming apparatus for cooking vegetables.

The range has been discussed. Ovens are of two sorts. Those for roasting meat have, if gas or electricity is used, the heating element inside, which directly heats the air in the oven, whereas a baking oven requires greater regularity of temperature than this method permits. In consequence these ovens are divided into compartments round and outside of which the heated air circulates. Electric light should if possible be fitted into each compartment so that the process of baking may from time to time be watched.

A fish fire, consisting of vessels containing fat heated almost to flash point, need under all circumstances a ventilating hood to carry away fumes. It is most suitably heated by electricity, since any flame presents a possible, though remote, source of danger.

Steamers for the cooking of vegetables contain water in a vessel in the base, from which the steam percolates upward through the wire trays above. The entry of water is controlled as a rule by a ball-cock.

The equipment in connection with the service consists of hot plates and hot closets, and sometimes of lifts. The hot plates should be arranged in counter formation between the kitchen space and the service, so that waiters need not interfere with the cooking. They should be contiguous with the washing space so that dirty plates may be dropped and clean ones picked up without upsetting the service circulation. If, as often, space does not permit of the restaurant being planned on the same floor as the kitchen, but on the floor above, a wide stair or ramp, divided to separate up and down traffic is preferable to lifts. It is desirable that the waiters should be able to have personal contact with the kitchen so that they may convey the special wishes of the diners. If, as happens, for instance, in the Café Royal, the restaurants are on many floors, lifts are necessary. This involves extra employés whose special duty it is to load the plates on to the lifts from the kitchen hot plate. The lifts themselves need not be equipped with any heating apparatus, since the journey is short and there are hot closets in the service rooms.

Dish Washing Equipment

Apart from the circulation of food through the kitchens and service, there is the subsidiary circulation of the dishes and glass, etc. The washing process is performed with varying degrees of mechanization. In Quaglino's Restaurant, for instance, it is done by hand. In most restaurants where there is available space there are washing and drying machines, the plates being loaded on to the appropriate counter by the waiters, delivered clean off another. Glass is generally washed and stored on the service floor, to minimize breakage. It is not until one considers the restaurants that serve a very large number of meals, such as the new Lyons Corner House at Marble Arch, that one finds the complete mechanization of this department. Here conveyors, in the form of endless moving bands, take the trays as they are brought into the service and deposit them in the washing department. Here they are loaded on to racks and another conveyor carries them slowly through the washing, rinsing and sterilizing machines. These work by means of jets of water at a high temperature. When they emerge the plates are very hot and dry by evaporation almost immediately. Further conveyors return them to the service department. Empty bottles are loaded into a conveyor in the form of an endless chain with containers attached, which takes them down through five sub-basements where they are washed and stored.

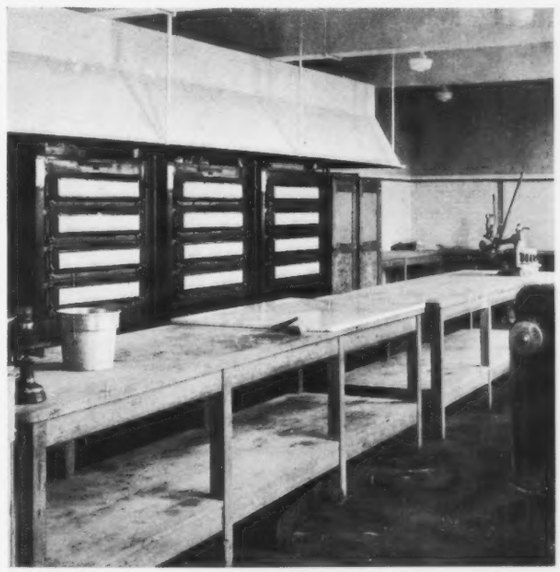
Proportional Areas

All these departments need a considerable amount of space, and most restaurants are handicapped by the lack of it. The kitchens, including larders, washing and service departments, should be from 33 per cent. to 50 per cent. of the total area of the dining-room, and the nearer 50 per cent. the better. If pastry and ices are made on the premises the area might well be bigger still. This is calculated on the basis that there are about 50 seats to every 700 square feet of dining-room area, and that there are served not more than $1\frac{1}{2}$ meals per seat.

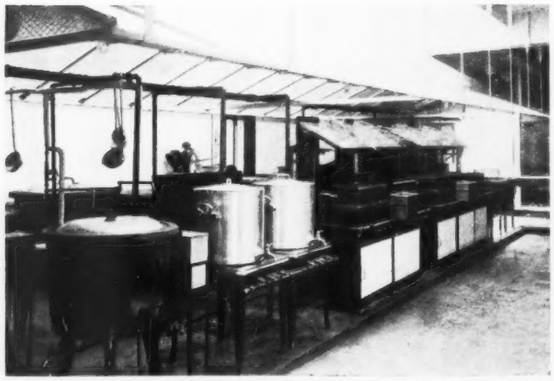
Restaurant Arrangement and Illumination

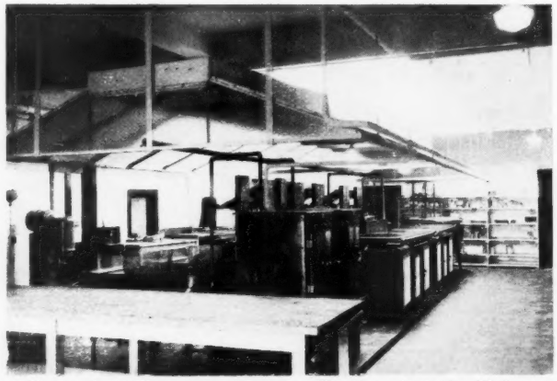
So far we have been concerned with processes that the diners do not see. The remaining considerations must be less precise. They are those of the arrangement of seats, of lighting and of decoration.

In restaurants of the expensive class there is much to be said for rooms of irregular shape, or one broken up by columns. Agoraphobia-ridden, the guests at such places like to get their backs to a wall, to dine securely in a corner, and the more corners the room provides the better. Friends, enemies or the Press must come boldly up from the front, or not at all. This can, of course, apply only to restaurants of limited size.



19. Part of the Bakery at Messrs. Woolworth's Coventry Store, showing the battery of gas ovens with a galvanized hood over. White glazed tiling is used for the walls and brown quarry tiles for the floor. Designers: F. W. WOOLWORTH & COMPANY.





20 and 21. Two views of the kitchen at Messrs. Woolworth's Coventry Store, showing the central "island" of gas-ovens, steamers, fish-friers, etc., standing on a slightly raised platform, with a wired glass canopy over. The floor is laid with brown quarry tiles and white-glazed tiles cover the walls.
Designers: F. W. WOOLWORTH & COMPANY.

In such places as Lyons the rooms are so large that a very large proportion of the tables must be out in the open, but even here the tables by the walls, and those backing on the big free-standing columns are the most popular. In Quaglino's grill-room the tables are on two levels, those nearest the wall being raised upon a semi-gallery, with a balustrade. This arrangement greatly increases the number of tables that have their backs to a wall (see page 239).

The lighting of restaurants is of very great importance for the comfort of diners. In restaurants of limited size it is possible to provide tables with a pleasant light while not flooding the room with excessive brilliance. In places where they dance the lighting effects should be variable, and this may be seen at its greatest elaboration at Quaglino's, where the band may suggest no emotion that cannot be reinforced by one of the large repertoire of lighting effects from troughs and fittings at every level. There is interesting lighting too, in the cocktail bar attached to the grill room in this restaurant, where great circular discs in the ceiling some three feet across and lit from within add exciting scale to a smallish room, the only drawback being that when all are lit there is too much light for comfort. The scale is reinforced by bulkily designed black columns contrasting with yellow upholstery.

There is good lighting to be seen at the new Lyons Corner House, especially in the café in the front shop. Here there are large ceiling fittings, but the discomfort of their great brilliance is countered by "Sun-ray" tubes round the cornice, which do genuinely give an effect of daylight. The main restaurants here are lit by concealed lights round the cornices and columns (see pages 240, 241).

The position of the service entrance must depend on the general lay-out of the kitchen and dining-room, and controls to a great extent the efficiency of the general circulation. It should be arranged so that it commands a central situation from which waiters can radiate, or if this is not possible, there should be two services at either end of a long room, as was originally planned at the Dorchester Hotel.

The service is but one link in the long chain of kitchen circulation, and on this chain as well as on good equipment depends the ordered running of a restaurant. At the moment in London there are many restaurants of repute that dissipate much energy in a wilderness of ill-planned services, though an increasing economic pressure will weed and is weeding them out.

ANTHOLOGY

Schools of the Island Race

It wasn't very large certainly, being about six feet long by four broad. It couldn't be called light, as there were bars and a grating to the window; which little precautions were necessary in the studies on the ground floor looking out into the close, to prevent the exit of small boys after locking-up, and the entrance of contraband articles. But it was uncommonly comfortable to look at, Tom thought. The space under the window at the further end was occupied by a square table covered with a reasonably clean and whole red and blue check tablecloth; a hard seated sofa covered with red stuff occupied one side, running up to the end, and making a seat for one, or by sitting close, for two, at the table; and a good stout wooden chair afforded a seat to another boy, so that three could sit and work together. The walls were wainscoted half-way up, the wainscot being covered with green baize, the remainder with a bright patterned paper, on which hung three or four prints, of dogs' heads, Grimaldi winning the Aylesbury steeplechase, Amy Robsart, the reigning Waverley beauty of the day, and Tom Crib in a posture of defence which did no credit to the science of that hero if truly represented. Over the door were a row of hatpegs, and on each side bookcases with cupboards at the bottom; shelves and cupboards being filled indiscriminately with school books, a cup or two, a mousetrap, and brass candlesticks, leather straps, a fustian bag, and some curious looking articles which puzzled Tom not a little, until his friend explained that they were climbing irons, and showed their use. A cricket bat and small fishing rod stood up in one corner.

TOM BROWN'S SCHOOLDAYS.

* * *

And indeed Clarke was even more imposing in his own study. The back of the room sloped down into a low alcove in which hung strange Egyptian curtains. The walls were decorated with a few pre-Raphaelite photogravures. Behind the door was a pile of cases.

THE LOOM OF YOUTH BY ALEC WAUGH.

* * *

The lower school-boys of the School-house, some fifteen in number, had tea in the lower-fifth school, and were presided over by the old verger or head-porter. Each boy had a quarter of a loaf of bread and pat of butter, and as much tea as he pleased; and there was scarcely one who didn't add to this some further luxury, such as baked potatoes, a herring, sprats, or something of the sort; but few, at this period of the half-year, could live up to a pound of Porter's sausages, and East was in great magnificence upon the strength of theirs. He had produced a toasting-fork from his study, and set Tom to toast the sausages, while he mounted guard over their butter and potatoes; "'cause," as he explained, "you're a new boy, and they'll play you some trick and get our butter, but you can toast just as well as I." So Tom, in the midst of three or four more urchins similarly employed, toasted his face and the sausages at the same time before the huge fire, till the latter cracked; when East from his watch-tower shouted that they were done, and then the feast proceeded, and the festive cups of tea were filled and emptied, and Tom imparted of the sausages in small bits to many neighbours, and thought he had never tasted such good potatoes or seen such jolly boys. They on their parts waived all ceremony, and pegged away at the sausages and potatoes, and remembering Tom's performance in goal, voted East's new crony a brick.

TOM BROWN'S SCHOOLDAYS.

* * *

All boys have fresh fruit at breakfast and milk and an apple at eleven. Choice cooking.

A CONTEMPORARY DIRECTORY OF SCHOOLS.

* * *

The lower-fourth, and all the forms below it, were heard in the great school, and were not trusted to prepare their lessons before coming in, but were whipped into school three-quarters of an hour before the lesson began by their respective masters, and there scattered about on the benches, with dictionary and grammar, hammered out their twenty lines of Virgil and Euripides in the midst of Babel. The masters of the lower school walked up and down the great school together during this three-quarters of an hour, or sat in their desks reading or looking over copies, and keeping such order as was possible. . . .

Besides the desk which the master himself occupied, there was another large unoccupied desk in the corner of the great school, which was untenanted. To rush and seize upon this desk, which was ascended by three steps, and held four boys, was the great object of ambition of the lower fourthers; and the contentions for the occupation of it bred such disorder, that at last the master forbade its use altogether. This of course was a challenge to the more adventurous spirits to occupy it, and as it was capacious enough for two boys to lie hid there completely, it was seldom that it remained empty, notwithstanding the veto. Small holes were cut in the front, through which the occupants watched the masters as they walked up and down, and as lesson time approached, one boy at a time stole out and down the steps, as the masters' backs were turned, and mingled with the general crowd on the forms below.

TOM BROWN'S SCHOOLDAYS.

* * *

Then there are special classrooms designed and equipped for the teaching of geography, English literature, and art. These are larger in size than the other rooms and have certain exceptional features. The Geography Room has a much larger table to permit of maps being opened out flat and examined in the horizontal position. . . . The English Room is provided with a plug point to which an all-mains portable wireless listening set can be attached and broadcast lessons received by the class. This is also possible in the Geography Room which can, in addition, be darkened by curtains to enable lantern slides or small-sized films to be shown.

The Art Rooms are annexed to the two stages in the Great Hall, so that they can act also as ante-rooms when necessary. They are equipped with individual locker art desks of a special pattern which permit of drawing on boards placed at varying angles for both a standing and a sitting position. Light chairs, specially selected for comfort and shod with rubber crutch end pads for silence, provide the seating.

FROM AN ARTICLE ON PAGE xlii OF THIS ISSUE OF THE ARCHITECTURAL REVIEW.

MARGINÀLIA

A THOUGHT FOR THE MONTH

"Walt Whitman was probably not thinking of super cinemas when he wrote 'It is provided in the essence of things that from any fruition of success, no matter what, shall come forth something to make a greater struggle necessary.' But he was right, all the same."

To-Day's Cinema.

EXPERIENTIA DOCET

Address to Synod by the Bishop of Hong Kong :—

"In the matter of church building . . . I wish to suggest to you that pure Chinese style be adopted in all buildings in future. . . . The history of China suggests that the Chinese are the most artistic people in the world."

Extract from article in same magazine :—

"In the 'sixties it [the Bishop's palace] may have been an imposing Victorian Gothic building with its stuccoed and parapetted tower 'bosomed high in tufted trees' on the side of . . . the ravine."

Lighting In The Home I

[*A good light in the hall welcomes the visitor.*]

Good afternoon, Mr. Maconachie

[*A friendly lighting atmosphere in the Lounge Hall*]

I am entertaining some friends to tea in the lounge,

[*Portable lamps for beauty and utility.*]

perhaps you would care to wait in the Tudor Drawing Room

[Continued on page 247]

UNDERGROUND STATION

Street-line and sky-line
Three-dimensional scribble.
Theatre, factory,
Office-block, store,
In dingy stone
And dingier brick
Unmatched beads on a twisted string.
Greek masks of hypocrisy
To disguise progress
Or conceal achievement.
Afraid
Of the Machine.
Yet Art renaissant
Thrusts up a portent shoot
Of architectural Spring.

J. Barton.

* * *

CORRESPONDENCE

DICTIONARY

The Editor,
The Architectural Review.

Sir,—I have composed this aid to house finders.

KOZI PALACES

Exclusive residential neighbourhood. Shady garden. Tennis court. Convenient bus. Each house different. Built to suit tenant's convenience. No road charges.

EXPLANATION OF TERMS

Kozi=small.

Palaces=houses.

Exclusive=something exclusive: *either* a tradesman's entrance *or* wooden fence or posts and chains, thereby excluding the public, symbolically, from stepping over same and looking into front room.

Residential neighbourhood=no shops built yet.

Shady=tree in undeveloped adjacent site.

Garden=thin grass.

Convenient bus=on main road or main bye-pass.

Each house different=(1) different sham beams or sham gables; (2) different stain'd glass in front door.

Built to suit tenant's convenience=?

No road charges (see convenient bus).

Your obedient servant;
S.W.155 "Arterial Road"

* * *

OSRAM LAMPS

The Editor,
The Architectural Review.

Sir,—My attention has been drawn to the illustrations on page 179 of your November issue, and to the paragraph

headed "Making a Lamp," which details the captions attaching to the various illustrations.

In view of the fact that the General Electric Co., Ltd., manufacture and market OSRAM lamps in this country, some misapprehension seems likely to arise.

My Company wish, therefore, to state:

(1) That the General Electric Co., Ltd., are the sole proprietors of the Trade Mark "Osram," and are the sole manufacturers of Osram Lamps within the Empire.

(2) There is no connection whatsoever between The General Electric Co., Ltd., and the Allgemeine Elektrizitats-Gesellschaft — the G.E.C. has never owned a share in the A.E.G. nor has the A.E.G. ever owned a share in the G.E.C.

In view of the misconception to which your illustrations and paragraph might give rise, I should be obliged if you would be good enough to publish this letter in your next issue.—Yours faithfully,

LESLIE GAMAGE,
Director and Secretary.

General Electric Co., Ltd.,
London, W.C.2.

* * *

WIRING A HOUSE

The Editor,
THE ARCHITECTURAL REVIEW.

SIR,—English people who are familiar with American homes and know what a boon electricity is for lighting, heating and labour-saving devices on the other side of the Atlantic, will rejoice to learn that the "Grid" is nearing completion and that, presumably, electricity at reasonable cost will soon be available to every householder in this country.

May I suggest, however, that before electricity can be of general benefit in our English homes, houses must be adapted or constructed in such a way as to make its use easy and convenient.

My own experience of English homes is that, even when they are wired for electricity, there is a deplorable lack of outlets, conveniently placed, such as readily facilitate the use of standard lamps, table lamps, portable heaters, irons, vacuum cleaners and the scores of handy "gadgets" so familiar in the United States.

It is true that the majority of English homes were built in the pre-electricity age and consequently were not designed for it. But even many of our modern houses are equipped in a way which makes the use of electricity, even for lighting, far more difficult than it should be.

Perhaps our electrical undertakings will consider the point and see whether they cannot persuade architects and builders to construct flats and houses with a plentiful supply of electric plugs, encouraging the fullest possible use of the many accessories which can add so greatly to comfort and lighten labour in our homes.—Your obedient servant,

GERALD GROVE.

Lighting In The Home II

[*Well lighted music makes playing a joy.*]

—and I will play a little Liszt to you.

[*Bedroom lighting that provides comfort and harmony.*]

I can't think where my husband can be.

The illustrations on this page and on pages 246 and 248 are reproduced by kind permission of the Electric Lamp Manufacturers' Association, 2 Savoy Hill, London, W.C.2, from one of whose brochures they have been selected The captions to the illustrations within square brackets are taken from this brochure. [Continued on page 248]

Lighting In The Home III

[*An illuminated Conservatory.*]

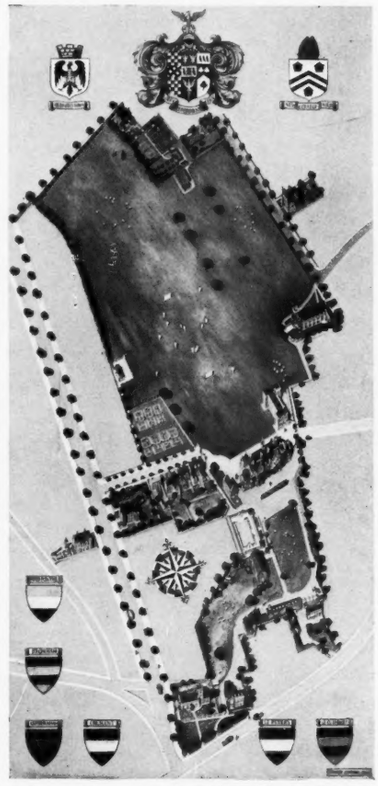
Perhaps he is in our conservatory—

[*A 25-watt lamp in this porch fitting serves the dual purpose of making the name of the house clearly visible and illuminating the threshold.*]

Anyhow, now you've found the way, do come again.

TOMBSTONES AGAIN

There seems to be no reason why English stones should not be used, in the place of foreign marble, for such work as tombstones and memorials in churchyards and cemeteries. There is plenty of material to choose from—the grey Hopton wood and the Ancaster compare well with the marble imported into this country. They also harmonize better with their surroundings; for, in a churchyard full of stone and granite and English marble, a tombstone of Italian white marble is only distracting to the eye, and it does not blend with the architecture of English churches.



A decorative map of BEDFORD SCHOOL and playing grounds designed by OSWALD P. MILNE for the embellishment of his new Science block illustrated on pages 225-226 of this issue.

Another point is that there are many traditional designs for tombstones, and it is only right that English material should be used for these. In a recent brochure published by Fenning & Co., Ltd., entitled *English Churchyard and Cemetery Memorials*, there are nearly sixty illustrations of tombstones and designs for them, mostly traditional in character. There are also included some very pleasant old gravestones; in fact, looking through the book, it seems difficult to better some of the simple eighteenth-century types, with their well-formed lettering. It is to be hoped that this excellent book will serve its purpose of encouraging the use of British in place of foreign material.

A Modern School

By FREDERIC EVANS

In spite of the various frenzied economy periods, the post-war years can safely be termed a school building age. This has been especially true since the Hadow Report in 1926 *advocated a complete reorganization of the elementary school system in order that full provision could be made for the needs of children in the early adolescent stage, that is between the ages of eleven and fourteen or fifteen years. For such children many schools, variously described as "Senior," "Central," or "Modern," have been erected, one of the most recent examples being the Northumberland Heath Senior School for one thousand and forty pupils in the Urban District of Erith, in Kent. This school reflects, both in its planning and equipment, the particular functions of a senior school which are rather new features in our system of free compulsory elementary education.*

It may be well to explain in greater detail what a senior school is. The elementary Education Act of 1870 *visualized for England and Wales merely elementary education. The school leaving age was regarded then as being quite properly somewhere about eleven or twelve. Since* 1870, *however, the school leaving age has by law been, by different stages, raised to what is technically known as* 14+, *no child in the elementary schools now being legally entitled to leave until the end of the term in which the age of fourteen years is reached. This continual addition to the length of compulsory school life, without altering similarly the type of provision in educational facilities, created a number of problems well known to teachers in the elementary schools. The curve of intelligence distribution as the age advances from about ten years on to fifteen or sixteen shows a wider "scatter" of individual differences making it more difficult to teach children of that group together in one class. Thus there were, and still are in many areas, children grouped in the classes at the end of their compulsory school life who are of very widely differing intelligences and having a great variety of skill and interest. In the ordinary school it was almost impossible to cater for all these needs, and the effects tended to show themselves in the growth of a sense of futility in the senior classes of the elementary schools and in a feeling of limited scope. Discipline problems became greater and the complaint was common that in such classes the children were only "marking time." The great need for education of an active and practical character for children in their early adolescence could not be met adequately and economically in the old type seven-standard school so that, usually, only instruction of a formal academic character, unsuited to the abilities of many of the children, was possible. There were, therefore, many misfits to society, a great deal of boredom, and an absence of the urge of reality in the public system of education at this early adolescence stage.*

The remedy, therefore, suggested in the Hadow Report of 1926 *was the centralization of the instruction of children over eleven years of age into large senior schools at convenient centres, leaving the other schools to deal only with juniors up to that age. These grouped schools, whether using old premises*

adapted for the purpose or specially built, would obviously have more children of each particular year group than had been the case in the older type schools, which usually had a seven years' range as compared with three or four in the grouped schools for seniors. This means that there can be suitable classifications of types, intelligences and interests in the one school. It also provides a concentration of accommodation, and facilities for a variety of practical activities, making for a greater sense of reality in the teaching and also affording a wider range of opportunity in self-expression than was the case in the more diffuse type of school.

Desks and Seats

It has been necessary to enlarge upon the reasons for, and the functions of, these senior schools in order to make clear the meaning of much of the equipment provided. In the first place, in the Northumberland Heath Senior School great care was exercised in the selection of the desks and seats for the ordinary classrooms. Separate seating and flat topped locker desks, some of dual and some of single pattern, were decided upon since great mobility of the furniture was very desirable. At short notice the classrooms can be converted into committee rooms, model law courts, town councils, parliaments, or League of Nations assemblies. The flat topped desks facilitate their use in mass to form table sections for light crafts of various kinds. The locker desks selected have tubular steel supports pressed into the woodwork without nuts and bolts to get loose and recessed angles to collect dust. These desks can be pushed over the hardwood block floors with great ease.

The seating for the dual desks is separate and consists in each case of a pair of tip-up seats on a folding frame. The seats are raised to give a slight upward tilt in front, the edge of the seat coming comfortably under the knee joint of the sitter whilst the back rail is so placed that it fits into the small of his back, thus securing both a comfortable and a hygienic sitting position. The tip-up seats drop on to strong rubber pads which give resilience and a sense of comfort. Each pair of seats has at the back of the three upright struts an iron lug, through which a prepared batten can be slid to link together these pairs of seats into a battery of ten, thus enabling them to be used in an emergency when a large audience is present in the Great Hall. The bye-laws require such seats to be battened together for public meetings.

Other Classroom Furniture

The rest of the classroom furniture is simple. A frame fixed to the wall holds a pair of green "black" boards which are reversible and also can be varied in angle for visibility. Thus ample board space is provided for each teacher. None of the old time desks upon which teachers sat as upon a pedestal has been supplied to any of the classrooms but, instead, large tables with capacious drawers and an easy chair have been made available. This is symbolic of the new trend in education—less dogmatism and regimental discipline on the part of the teacher and greater freedom and friendliness in his relations with the class. A pair of built-in cupboards in the walls each side of the blackboards completes the furniture of the ordinary classroom.

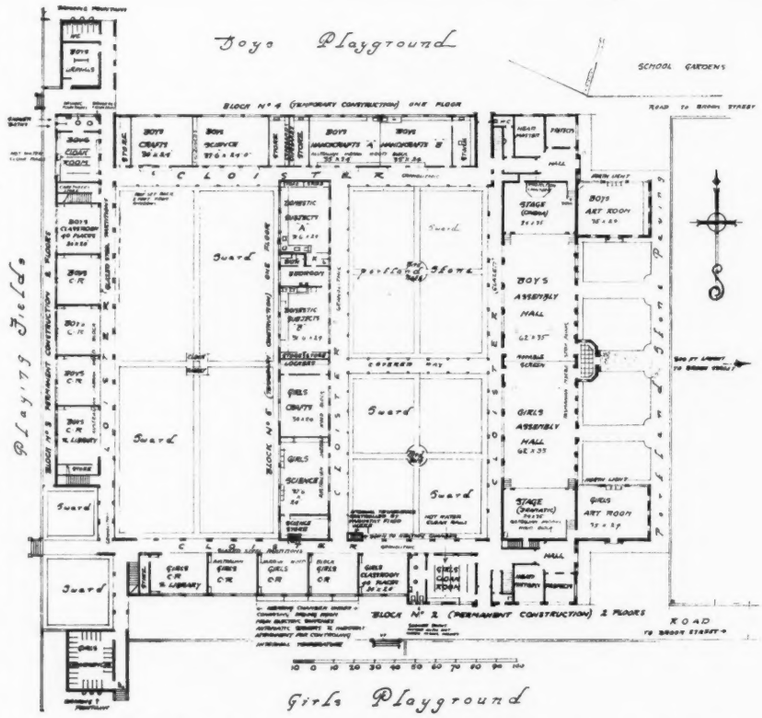
Special Classrooms

Then there are special classrooms designed and equipped for the teaching of geography, English literature, and art. These are larger in size than the other rooms and have certain exceptional features. The Geography Room has a much larger table to permit of maps being opened out flat and examined in the horizontal position. Half this table has a pedestal underneath it containing a number of drawers large enough to hold plans and the folding maps so much used in schools today. A steel barrel across the room above the teacher's head is fitted with attachments to suspend globes, racks for sets of comparative maps and other apparatus. The Geo-

graphy Room has a small store and preparation room attached in which surveying instruments, measuring chains, plane tables, clay and *papier mâché* models and other geographical material can be stored.

The English Room is similar in size and the store room is equipped with shelves to house the school lending library. Fixtures to permit of hanging time charts and other illustrative material are attached to the wall. The English Room is provided with a plug point to which an all-mains portable wireless listening set can be attached and broadcast lessons received by the class. This is also possible in the Geography Room which can, in addition, be darkened by curtains to enable lantern slides or small-sized films to be shown.

The Art Rooms are annexed to the two stages in the Great Hall, so that they can act also as ante-rooms when necessary. They are equipped with individual locker art desks of a special pattern which permit of drawing on boards placed at varying angles for both a standing and a sitting position. Light chairs, specially selected for comfort and shod with rubber crutch end pads for silence, provide the seating. The Art Room has a set of lockers providing space to store the portfolios of each particular form from one lesson to another. A sink with water laid on and a press with drawers large enough to hold big sheets of art and drawing paper and other materials com-



Ground floor plan of the Northumberland Heath Senior School, Erith, Kent. HAROLD HIND, Architect.

pletes the equipment. It should be said that the special art desks provide a housing for the drawing boards and the water pots used in painting.

These classrooms are duplicated for the boys' and girls' departments respectively, but each section has a block of practical classrooms specially designed and equipped for the teaching of general science, general crafts, and, in the case of the girls, two rooms for domestic subjects with, in the case of the boys, two rooms for handicraft. These contain some of the most interesting equipment in the school and each practical room has a storeroom attached complete with preparations bench, lockers and shelves. The Science Rooms have loose teak-topped tables with rubber shod stools for seating. A demonstration bench for the teacher with revolving "Unique" blackboard behind him provides the means for general science teaching. There are at the sides of the rooms sinks and teak draining boards, with an electric heater for hot water. Electricity from a "step down" transformer will be "on tap" shortly to enable safe experimenting in electricity to be possible. The usual detail equipment for a general science room is available and the room can be darkened by patent blinds to enable the optical lantern, the episcope or the microprojector to be used.

The Crafts Rooms have large tables with whitewood tops upon which crafts like lino cutting, cane work, raffia work, bookbinding, upholstery, etc., can be taught. Seating is provided by comfortable rubber shod chairs. The storerooms are spacious and contain numbered lockers for each form's work. Since both Crafts and Science Rooms have to be used also as "form" rooms, sets of individual lockers for the form based on that room have been provided. Equipment like looms, binding presses, treadle sewing machines, printing presses, duplicators, etc., have been acquired for the Crafts Rooms.

The Girls' Domestic Subjects Rooms contain coal cooking ranges, gas and electric cookers, gas and electric boilers, electric irons, vacuum cleaners and all types of modern domestic apparatus. The usual whitewood topped tables with pastry boards, panshelves, etc., are provided, whilst chairs provide the seating. There is a miniature flat with furnished bed-sitting room, bathroom and kitchenette in which individual exercises in housekeeping can be carried out by the older girls. Details of all the equipment are too many to mention in an article such as this, but the Domestic Subjects Rooms are generously provided with all things necessary for the teaching of cookery, housewifery and laundry work.

The Boys' Handicraft Rooms have dual purpose benches convertible for use either in woodwork or metalwork. The flat teak top used for the latter can be detached in two halves, each half acting as the cover for the metal working tools cupboard at the ends of each bench, the rest of the space underneath being fitted with the woodwork tools. There are fixed benches around the sides of the rooms, forges, brazing pans, anvils, chopping blocks, smiths' heavy tools, tinmen's irons of all kinds, and a guillotine for metal. Power points for electrified lathes, drills, etc., have been put in, but economy restrictions have prevented the machinery being supplied so far.

The Great Hall

The Great Hall has one stage fitted for cinematographic work, back screen projection being used. Audiences of small, medium or large size can be accommodated either on the stage itself, in half the hall or in the whole of the hall, which is made available by throwing back a soundproof portable partition. The other stage is completely fitted with velour silk-lined curtains in apple green for the proscenium and fawn for the inner stage. These are properly fitted with suspension and operating gear. There are coloured footlights, side lights and top lights in two batteries, all controlled from a dimmer and switch board of the most modern pattern. There are also portable floodlights and hooded electric light stands for the orchestra.

The seating of the hall is by portable folding seats in sets of fours and fives similar to the dual seats described for the classrooms. These are stored in the basements under the stages since the hall is also used for the gymnastic training of the pupils. For this balancing benches and vaulting horses and other loose

HOUSING: Up and Down Britain Municipal Authorities are concerning themselves largely to-day with housing schemes. The modern housing problem demands that full consideration is given to the question of health and hygiene, providing for the admission of the maximum amount of sun, light and air. That is why "Reliance" Metal Windows are being so extensively used as the above illustration indicates. "Reliance" Metal Windows are absolutely draught and weather proof, cannot warp (thus ensuring easy opening and closing at all times); offer every advantage from the point of view of hygiene . . . . . and "*Reliance*" *Metal Windows are Guaranteed.* The latest "Reliance" Catalogue gives fullest details of metal windows for every conceivable type of modern building. Please request a copy and consult Williams & Williams in connection with your next housing proposition.

WILLIAMS & WILLIAMS LTD., RELIANCE WORKS, CHESTER

gymnastic equipment have been provided.

In conclusion a word or two about the school pictures will not be inappropriate. In each art room (which by the way, like the Great Hall and Geography Rooms, can be darkened by green lacquered "Decorene" curtains) there are sets of captioned reproductions of the masters in the great schools of painting. Other pictures are mainly rich coloured moderns—framed in bleached oak. There are also coloured woodcuts, etchings, and examples of photographic art—all very carefully selected. In the entrance halls, the Great Hall and at other points of vantage the pictures are fixed, large moderns in antique silver frames which blend well with the cream walls, white ceilings, and woodwork painted in two shades of delicate apple green, as well as with the light green lacquered curtains. A conscious attempt has been made to combine utility and beauty in the equipment of the school.

Music and Games Equipment

There has been no room to describe the pianos, gramophones, games equipment, projection apparatus, and many other items of equipment which have been supplied. A multi-purpose sound apparatus suitable for the reception of broadcast talks, amplification of gramophone records, speech and music amplification and any other such purpose is also being considered for the school as well as the fitting up of an old and abandoned school building as a canteen to provide dinners for about three hundred and fifty of the children who come from a distance to the school.

TRADE NOTES

Messrs. H. H. Martyn & Company of Cheltenham announce that they have amalgamated with Messrs. Maple & Company of London, and will in future undertake such architectural manufacture as has hitherto been carried out by Messrs. Maple & Company.

Messrs. Martyn will continue under the same management as before, with Mr. David Longden as Managing Director. The same traditions will be maintained in working for, and collaborating with, the architectural profession.

* * *

Messrs. Barker, Young & Co., Ltd. inform us that their Company will in future be known as Unity Heating Ltd. The new Company consolidates the interests of and succeeds Barker, Young & Co., Ltd., Young, Osmond & Young, Ltd. and The Electro-Gas Development Co., Ltd. No change of policy or personnel is entailed in the change of name but the rationalization of the three Companies will enable them to increase efficiency and to render even better service than in the past.

* * *

The general contractors for the new Science Block at Bedford School were Messrs. S. Foster, Ltd., Kempston, Bedford. Among the artists, craftsmen and sub-contractors were the following :— Aston Construction Company, Ltd. (steelwork), Tyler and Freeman (electrical work), Benham and Sons (heating), Williams and Williams (metal windows), Jenkins and Sons, Torquay (terrazzo flooring), Acme Flooring Co. (wood flooring), C. Franklin, Bedford (external bricks), Grovebury Brick Works, Bedford (internal bricks), Educational Supply Co., Ltd. (laboratory fittings), Caxton Floors (fireproof floors), Comyn Ching (ironmongery), Tucker and Edgar, Ltd. (clock and sundial), Synclocks, Ltd. (clock mechanism).

* * *

Messrs. W. T. Nicholls, Ltd., Gloucester, were the general contractors for the Washington Singer Laboratories, at the University of the South-West of England, Exeter. Among the artists, craftsmen and sub-contractors were the following :— Considere, Ltd. (reinforced concrete), Northwick Brick and Tile Co. (bricks), Bath and Portland Stone Co. (stone), Jeffreys (central heating and ventilation), Exeter Gas Co. (gas fixtures), Drake and Gorham, Exeter (electric wiring, fixtures and bells), Leeds Fireclay Co. (sanitary fittings), Luxfer, Ltd. (casements), J. Wippell and Co., Ltd. (metalwork), Baird and Tatlock (science fittings), Marryatt and Scott (lifts).

* * *

The general contractors for the new Science Block at Marlborough College,

Wilts., were Messrs. F. Rendell and Sons Ltd., Devizes and The Trussed Concrete Steel Co., Ltd. Among the artists, craftsmen and sub-contractors were the following :—Ames and Finnis (bricks), The Ragusa Asphalt Co., Ltd. (special roofings), Newalls Acoustic Products, Ltd. (thatchboard), Hollis Bros., Ltd. (wood-block flooring), The Granwood Flooring Co., Ltd. (patent flooring), Stuart's Granolithic, Ltd. (patent flooring), J. H. Nicholson & Co., Ltd. (central heating and ventilation), Dent and Hellyer, Ltd. (sanitary fittings), John Gibbs, Ltd., Birmingham (casements), Galsworthy, Ltd. (metalwork), The Bennet Furnishing Co., Ltd. (science fittings), Aldous and Campbell, Ltd. (lifts).

* * *

The general contractors for the conversion work at Cranley Court, Cranley Gardens, S.W.7, were Messrs. Vigor & Co. (Poplar), Ltd. Among the artists, craftsmen and sub-contractors were the following :—Masonite Boarding (partitions), Compton Bros. (glass), Benham and Sons, Ltd. (central heating and boilers), Gas, Light and Coke Co., Ltd. (gasfitting), Troughton and Young, Ltd. (electric wiring, light fixtures, bells, telephones), Leeds Fireclay Co., Ltd. (sanitary fittings), Pirie-Parlanti Co. (door furniture, window furniture, metalwork, lift car), Adlards, Ltd. (tiling), Hugh Bankart, Ltd. (letter boxes and indicator board), Maurice Lambert (sculpture group), The Express Lift Co., Ltd. (lifts).

* * *

The general contractors for the house *St. Raphael* at Hornchurch, Essex, were Messrs. S. J. Davis, Romford, Essex. The following were among the artists, craftsmen, and sub-contractors :—Charles Davey, Ltd. (central heating), W. H. Busby, Romford, Essex (electric wiring and heating), Troughton and Young, Ltd. (electric light fixtures), W. N. Froy and Sons, Ltd. (sanitary fittings), Comyn Ching & Co. (door furniture), James Gibbons, Ltd. (door furniture), Crittall Manufacturing Co., Ltd. (casements), The Cement Marketing Co., Ltd. (external Cullamix), H. and F. Badcock (decorative plaster), J. Starkie Gardner, Ltd. (metalwork), Walter W. Jenkins & Co., Ltd., Torquay (marble), Synclocks, Ltd. (clocks), Everett Edgcumb, Ltd. (clocks).

* * *

Among the artists, craftsmen and sub-contractors for the new Maison Lyons Corner House at the Marble Arch were the following :—Messrs. Hampton and Sons, Ltd. (plastering to ceiling, walls and painting), J. Stubbs and Sons, Ltd. (marble-work), British Vitrolite Co. (glass wall panels), Ludwig Oppenheimer (mosaic wall panels), General Electric Company, Ltd. (wall and column illuminated glass and Tungum cresting, electric light fittings), Maple & Co., Ltd. (tubular lighting), W. S. Tyler & Co., Ltd. (metal service doors), Pilkington Bros (decorative glazing to windows and mirrors and armour plate glass to doors), Morris-Singer Co. (tungum laylight), Betty Joel, Ltd. (bandstand and settee), Tucker Armoured Plywood Co., Ltd. (bandstand sounding board, malenite panels), Ebner & Co. (dance floor), Sage & Co., Ltd. (cash desks, shop entrance doors framing and window enclosures), Tungum Alloy Co. (tungum alloy metal), G. Parnall & Co., Ltd. (wall panelling, counters capping, skirting showcases and illuminated signs, tungum windows, and entrance doors in ladies' and gents' lavatories), Clifford & Co. (plaster ceiling frieze and painting), Carter, Stabler and Adams, Ltd. (ceramic mosaic flooring and Dermas skirting), Claude General Neon, Ltd. (Sunray tubing in shop), H. H. Martyn & Co., Ltd. (external shop windows), The Birmingham Guild, Ltd. (Staybrite screen and doors, internal decorative windows and signs), William Mallinson and Sons (walnut veneer for wall and counter panelling), Cox & Co., Ltd. (steel tables and chairs), London Sand Blast Co., Ltd. (window display decorations), Magneta Time Co., Ltd. (electric clocks), Jackson and Sons, Ltd. (plaster walls, ceiling and painting), Haywards, Ltd. (top ventilator grilles), James Clark and Sons, Ltd. (glass wall facing and partition), Art Pavements, Ltd. (terrazzo floor), Dent and Hellyer (plumbing), Korkoid Decorative Flooring Co., Ltd. (cork flooring), Clark and Fenn, Ltd. (plaster frieze and ceiling and painting), Diespeker & Co., Ltd. (terrazzo flooring), Joinery Department of J. S. Lyons & Co., Ltd. (doors and screens).

Printed for the Proprietors of "The Architects' Journal," of "The Architectural Review," and of "Specification" (The Architectural Press, Ltd.), by W. H. Smith & Son, Ltd., The Arden Press, Stamford Street, S.E.1, and published monthly at 9, Queen Anne's Gate, Westminster, London, S.W.1.
Agents—Canada: The Toronto News Co., Ltd.; The Montreal News Co. U.S.A.: William Helburn, New York. South Africa: The Central News Agency, Ltd., Cape Town. India: The Union Agency, Bombay; D. B. Taraporevala, Sons & Co., Ltd., Bombay. Australia: Jervis Manton, Melbourne; Whitcomb & Tombs, Ltd., Melbourne. New Zealand: R. Hill & Son, Auckland. Japan: Maruzen Co., Tokyo. Holland: N. V. Wed. J. Ahrend & Zoon, Amsterdam. Spain: Luis Pou, Barcelona.
Entered in the New York Post Office as Second Class Matter.